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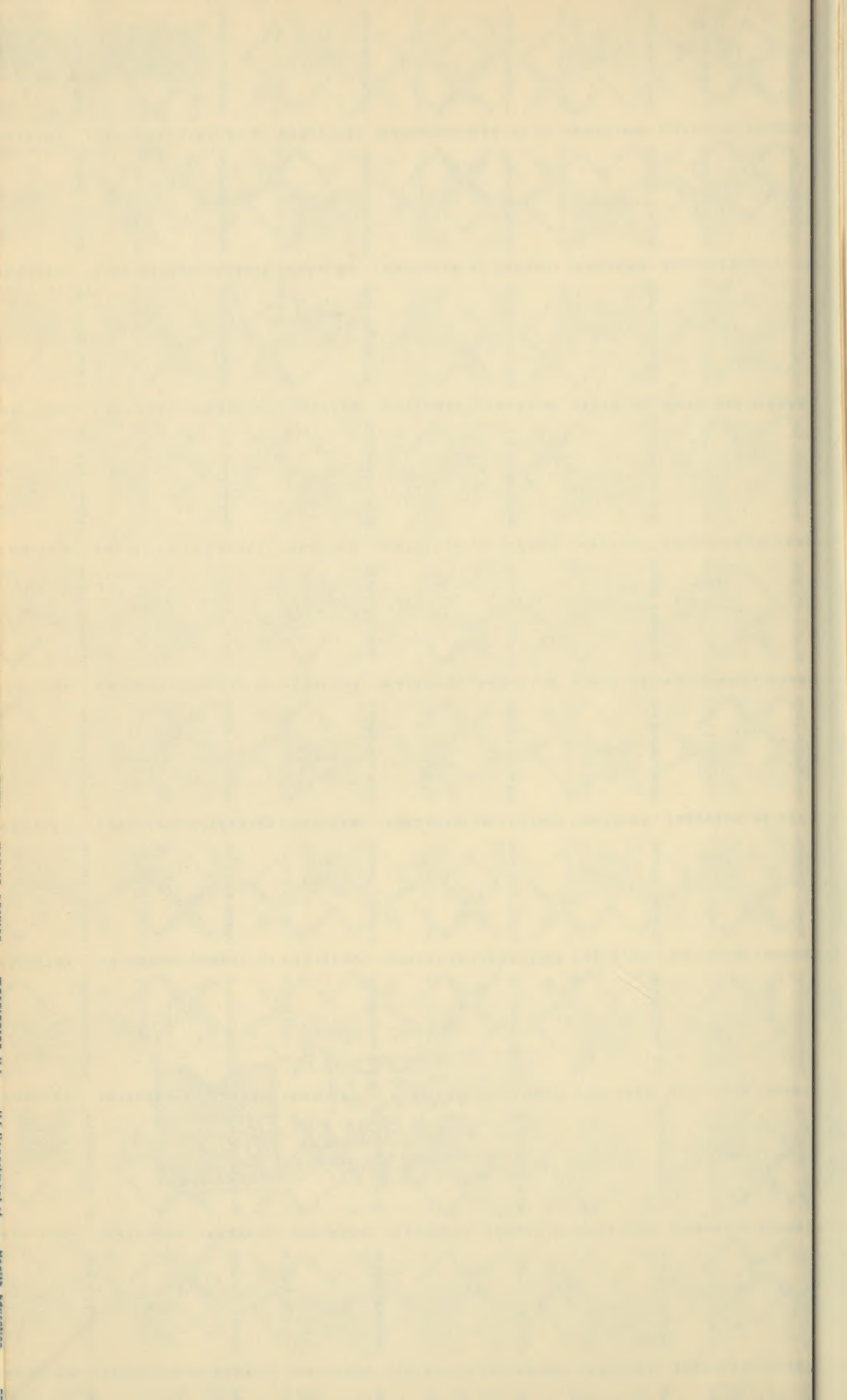
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us
Food— **IN WAR**
and
IN PEACE

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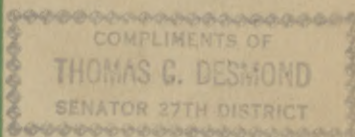
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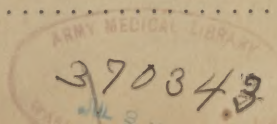
**CONSOLIDATED
REPORT**

**OF THE
NEW YORK STATE
JOINT
LEGISLATIVE
COMMITTEE ON
NUTRITION**

—◆—
1944
—◆—



26



New York (State) Legislature.
" Joint Committee on
Nutrition

Food—

IN WAR AND IN PEACE

In the format of this report, a slight departure from the usual pattern has been made. The report is presented in five different parts, distinctly separated but all related to the general subject. The series, combining to make a consolidated report, were edited by A. J. Abrams, research director, assisted by G. A. Yaeger, of the research staff, and are published by our Committee to promote development of a sound nutritional program.

THOMAS C. DESMOND
*Chairman, New York State
Joint Legislative Committee
on Nutrition*

CONSOLIDATED REPORT OF THE NEW YORK STATE JOINT LEGISLATIVE COMMITTEE ON NUTRITION

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Foreword

TO THE GOVERNOR AND LEGISLATURE OF THE STATE OF NEW YORK

MOMENTOUS developments on the nutrition front have occurred during the two years of existence of the New York State Joint Legislative Committee on Nutrition.¹

Soon after the outbreak of war, food "surpluses" disappeared; shortages became marked. Our country embarked on a gigantic rationing program. Price ceilings on food were imposed, but food prices have jumped nevertheless. Black marketeering became widespread and has not yet been curbed. Every housewife has been called upon to alter traditional habits in buying and cooking, and their response in general is a tribute to their patriotism and ingenuity.

A shortage of grains for live-stock feeding in the East created serious problems for our farmers. War plants have had difficulty in getting priorities for factory can-tees. Lunch periods for industrial workers, particularly miners, have been cut sharply. The school lunch program has had to face recurrent crises. And a dozen Federal food agencies have not yet produced a coordinated national food program.

Despite weaknesses in the food field, progress has been made. Food production has soared. Civilians are eating more than

they did before the war, and our soldiers are the best fed in the world. Thanks to newspapers, magazines and the radio, our consumers are obtaining an enormous amount of educational material.

War plants in increasing numbers are taking an interest in the nutritional problems of their workers. An epoch-making advance has been the compulsory enrichment of bread with nutrients essential to vigor and health.

Outlook for 1944

Although drought or unforeseen events may arise, the food outlook for 1944 seems brighter in some respects than it was in 1943. The biggest problem during 1944 will be milk, for it is unlikely that we can attain the unusually high level of production set during the past two years.

The 1944 food outlook for civilians in our country is for more potatoes, soya flour, fish, grits, wheat, corn and rice; less milk, meat, cheese and shortening; a continued tight supply of butter, and as much poultry, eggs and margarine as in 1943. A sharp drop in the supply of meat is likely this spring. We may get 15 per cent less food than we want but we will have all we need, and will have a

¹ The Committee was established by joint resolution of the Senate and Assembly in 1942. Its life was extended the following year until March 1, 1944. See Appendix A.



USDA photo by Knell

Milk will be biggest food problem of 1944, with manpower and feed shortages chief difficulties

better chance, if we manage carefully, of getting a more healthful diet than we have had in years.

Post-War Prospects

There is a division of opinion among experts as to post-war food prospects. Some believe we shall have to change our diet radically from emphasis upon meat to cereals, if we are to send large quantities of food abroad. But even this school of thought believes that such a change need not impair our nutritional status.

Others believe that, even if we

are to undertake to help feed the hungry and malnourished of the post-war world, we shall not have to tighten our belts. They point out that we are sending vast quantities of food abroad today, that in the post-war period per capita consumption of food at home is likely to drop with decreased wages, and that after a brief transitional period, Europe should be able to supply three-quarters of her own needs.

RECOMMENDATIONS¹

Despite the fact that we are the best fed nation in the world, there

¹Adoption of recommendations, I, II, IV, V, VII, VIII and XII was urged in "The Nutrition Front," the first report of our Committee (Leg. Doc. 64, 1943). Recommendations III, VI, IX, XI and XIII are new.

is a high prevalence of mild, chronic nutritional deficiencies. Unknown thousands of our people suffer from "hidden hunger," one-third of the draftees found unfit for service during 1941 were rejected directly or indirectly because of nutritional deficiencies. Nutritionists point out that industrial production cannot reach top peak with workers who tire easily, due to improper diets.

We recommend:

I. The State should place its nutritional activities on a permanent basis as soon as practicable.

We must recognize that nutrition is a proper and permanent concern of government. It lies with government, assisted by private agencies and supported by enlightened public opinion, to take the lead in bringing proper food within reach of all of our people.

New York State already has numerous agencies concerned with nutrition, and the State Emergency Food Commission has during the past year rendered excellent service to our people, through its nutritional activities, directed by Dr. L. A. Maynard, Dean, School of Nutrition, Cornell University. But not until we place our State's nutritional activities on a permanent basis shall we have a long-range, coordinated nutritional policy and program.

II. The State should create a central coordinating nutritional agency in the State Health Department.

This agency should be headed by a policy-making council of representatives of State departments

concerned with nutrition, and of representatives of the College of Home Economics, the School of Nutrition, College of Agriculture and the Extension Service at Cornell University. Creation of such a council will tend to eliminate the conflicts inevitable in coordinating the work of a large number of separate governmental bureaus. The council should be appointed by the Governor, in order that it may have the prestige and influence necessary to coordinate the activities of the various departments. The council should appoint an executive secretary who shall be administrative director of the agency. For the sake of efficiency and economy, staff functions such as clerical work, purchasing, etc., should be handled through the State Health Department.

The need for such an agency, first recommended in "The Nutrition Front," has become increasingly apparent.

III. The State should adopt a system of dietary surveys so that information needed for an intelligent food program will be available.

It is amazing but nonetheless true that despite the sweeping changes being made in national food policies from time to time, no one knows precisely the dietary status of people in the various economic levels of our country. For example, accurate data on the impact of price changes and rationing upon the low-income groups is lacking.

Absence of basic information makes it impossible to utilize our

food supply to the best advantage. England has solved this problem by inaugurating a system of dietary surveys.

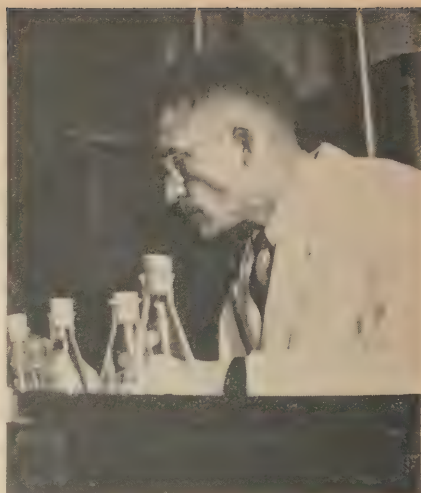
We in New York State should conduct dietary surveys which will give us the information essential for administering intelligent nutritional policies. This data will prove of utmost importance not only to the State but also to the Nation.

IV. The State should encourage research in the field of nutrition.

There are more than 600 research laboratories in the food industry. These laboratories have done outstanding work in improving the quality of our food. But the work of these private research agencies must be supplemented by publicly-supported research projects, such as those conducted at the State College of Agriculture, the College of Home Economics and the School of Nutrition at Cornell University. At these institutions, men and women are devoting their lives to the improvement of the health of our people. This research deserves the full support of our State.

V. There should be close relationship between our State's nutrition and food production policies.

Food and nutrition policy must be considered as complementary parts of a single problem. New York State is a leading producer of protective foods, such as eggs, milk, vegetables, and fruit. We have fish resources untapped. We could release transportation facilities and aid producers if we emphasized in our nutrition program



Nutritional research deserves full support of the State

the healthful products of our own State, rather than urge use of substitutes from far-flung parts of our country.

VI. The State should lend its influence in support of plans to keep prices of essential foods within reach of the lower-income groups.

Food costs during the past few years have soared. This is primarily a national problem. But the State can at least lend its influence and prestige in support of intelligent plans to keep food costs within reach of low-income groups. Price ceilings, subsidies, and the food stamp plan have all been tried from time to time to enable low-income families to obtain the food they need. Whatever the means employed, food prices must be kept within reach of the millions who earn less than \$30 a week. No effective nutrition policy is possible



USDA photo by Knell

School milk and lunch programs should be placed on a permanent basis

unless our wage-earners in the lower economic levels can afford to buy the food essential for health.

VII. The State should recognize the special needs of children.

We note with satisfaction that the State Education Department during the past year has been given the authority to direct the school lunch program, and that the 1943 Legislature removed the ban

which prohibited school districts from subsidizing their cafeterias.

Unfortunately, the recurrent emergencies which confront the school milk and lunch program threaten their continuance and expansion. The Federal Government should place these programs on a permanent basis. And our State should make every effort to see to it that the school milk and lunch program is continued and expanded.

VIII. The State should place greater emphasis upon nutrition in industry.

Nutritionists estimate that production of war materials could be stepped up 10 per cent if workers ate proper foods. An aggressive nutritional campaign should be conducted in industrial plants, encouraging establishment of factory canteens, between-meal snacks of nutritious foods, and use of concentrated nutritional supplements, such as brewer's yeast, to the on-the-job diets of workers.

IX. Penalties against black marketeering should be increased.

Black marketeering in food is widespread. At present, under the State War Council Act, violations of price ceiling and rationing regulations are merely infractions punishable by fines up to \$25 and five days in jail or both. This small penalty is tantamount to a license fee, for what black marketeer would not willingly pay \$25 periodically to make hundreds or thousands of dollars illicitly?

The War Council Act should be amended to make violations of price ceiling and rationing regulations misdemeanors, punishable by a graduated system of stiff fines and jail sentences, so that repeated violations will be discouraged.

X. Food waste should be curbed.

The amount of food we Americans waste each year is beyond belief. Tons and tons needlessly spoiled, needlessly wasted, are thrown into garbage pails. It is impossible to legislate this waste out of existence, but it is possible that large scale waste in restaur-

ants, hotels and institutions might be diminished if the State War Council were empowered to issue and enforce food conservation rules and regulations.

XI. Nutritional standards in State institutions should be improved.

The purchase, preparation and serving of food in all State institutions should be under the guidance of qualified nutritionists or dietitians.

The Correction Department, for example, should employ a nutritionist to set up basic daily rations in terms of essential nutrients, to advise prison cooks in the methods of preventing vitamin losses and in reducing food wastage.

The food inspectors of the Bureau of Food Control in the State Department of Agriculture and Markets should be authorized to make periodic inspections of State institutions. The Bureau of Public Service Training of the State Education Department should plan in service training courses for cooks, and other food handlers in State institutions.

XII. The State should encourage experiments in prevention of dental decay through use of fluorine in the water supply.

Last year, our Committee called attention to the unusually low prevalence of dental decay in communities where drinking water has a fluorine content of about one part per million gallons of water. We urged the State Health Department to conduct studies of the subject. We are happy to report that the Health



USDA photo by Forsythe

Surveys are needed to determine impact of price changes and rationing on our diets

Department has been keenly interested in fluorine developments, and is prepared now to conduct an experiment designed to provide definitive data on the desirability of having communities add fluorine to their water supplies. **(See note at end of Letter of Transmittal!)**

Fluorine offers a new hope for curbing the ravages that modern diet is making on the teeth of our people. We urge that funds be made available to the State Health

Department to finance a demonstration of the effectiveness of fluorine in test communities of our State.

XIII. In view of the new developments which directly affect food production, transportation, marketing and consumption, it is essential that the Joint Legislative Committee on Nutrition be permitted to continue its work.

We recommend that the life of the Committee be extended to

March 1, 1945, in order (a) to study means of conserving valuable nutrients now thrown down the drain as waste products, (b) to continue its studies of industrial nutrition and the nutritional activities of the State, (c) to direct a wide-scale dietary survey, and (d) to determine the impact of commitments now being made with foreign governments upon our own nutritional problems in the post-war era.

These 13 recommendations are our answer to the question: What role should the State play in relationship to nutrition?

And though they seem to deal mainly with abstractions such as nutritional principles, organization and administration, actually they are basically concerned with such realities as the stenographer snatching a quick lunch at a soda fountain; the welder digging into his lunch-box for his noon-time meal; the upstate farm-wife in her ample kitchen canning fresh fruits and vegetables; and the metropolitan house-wife in her cramped kitchenette, dependent on the can-opener. These recommendations affect the busy executive gulping his meal at his desk; the soldier's wife awaiting her first born alone and requiring special dietary attention; the school-boy running home to a skimpy lunch; the taxi-driver eating in a dismal coffee-pot; and the store clerk whose wages have not kept pace with rising food costs.

Activities

In developing the above recommendations, the Committee inquired into the feeding of war

workers, the school lunch program, the penny milk program, vitamin-fortification of foods, dietary habits, and many other nutritional problems. Chief emphasis during the past year has been upon diets served in State prisons and black markets in food.

Public hearings: The Committee held two public hearings which attracted wide attention and served to make available not only to our Committee but to nutritionists throughout the country a vast amount of valuable information.

Testimony at the first hearing, was highlighted by a report by Mrs. Franklin D. Roosevelt who spoke on her observations of British nutritional practices; by Mayor Fiorello H. LaGuardia, of New York City, who announced he would continue the school lunch program despite the threat of withdrawal of Federal financial assistance; and by a sharp difference of opinion among experts who spoke on vitamin feeding of war workers. Federal, State and local officials informed our Committee of their respective nutritional activities and problems.

The second hearing covered two main subjects: (a) 1944 Food and Nutritional Problems, and (b) Black Markets in Food. Federal food production goals were outlined by Roy F. Hendrickson, Director of the Food Distribution Administration, and N. E. Dodd, Chief of the Agricultural Adjustment Agency. Dr. L. A. Maynard, Dean, School of Nutrition, Cornell University, spoke on pressing nutritional problems. Mayor LaGuardia, OPA Regional Adminis-

trator Daniel P. Woolley, and representatives of the food industry informed us of their difficulties with black marketeering. Mr. J. M. Casey, President, Independent Meat Packers Association, urged adoption of a "holiday" on pork ration points.

Staff surveys. The research staff of the Committee compiled a large amount of pertinent data, made field trips to secure first-hand information from industrialists, labor leaders and nutrition experts, surveyed the nutritional activities of cities, investigated nutritional practices in war plants, analyzed nutritional policies of State prisons, conducted conferences bringing Federal and State officials together for cooperative efforts in combating black markets, and analyzed the nutritional activities of State departments.

Committee reports: Gratifying was the reception given by doctors, nutritionists, food experts, women's organizations, and the scientific and lay press to the first report of our Committee, "The Nutrition Front."

The second report of our Committee will consolidate several reports, each dealing with a separate phase of nutrition and containing articles by leading authorities. These reports were planned and edited under the direction of Albert J. Abrams, assistant to the Chairman of the Committee, with the assistance of G. A. Yaeger, of the research staff.

Advisory Council: Early in the life of our Committee, an Advisory Council on Nutrition in Industry

was appointed. The Council consisted of the following: Miss Elsie Bond, Assistant Secretary, State Charities Aid Association; Dr. Frank G. Boudreau, Chairman, Committee on Nutrition in Industry, National Research Council; Mr. Mark A. Daly, Executive Vice President, Associated Industries of New York State, Inc.; Dr. Elizabeth N. Gardiner, Chairman, New York State Nutrition Committee; Lieutenant-Commander C. M. McCay, Professor, New York State College of Agriculture; Mr. G. H. Pfeif, Supervisor of Personnel, General Electric Company; Mr. John Sloane, former Chairman, Committee on Public Health and Welfare, New York State Chamber of Commerce; Mr. Gustave A. Strebel, President, New York State Industrial Union Council; and Mr. Lazare Teper, Director, Research Department, International Ladies' Garment Workers' Union.

Acknowledgments

To the hundreds of scientists, physicians, nutritionists, food experts and public officials who assisted and cooperated in the work of our Committee, we wish to express our appreciation.

For assistance in enabling us to print our reports in attractive style, we wish particularly to thank Mr. Burt R. Rickards, Director, Division of Public Health Education, State Health Department, who enabled us to secure needed charts; the photographic section of the press bureau of the United States Department of Agriculture, which provided us with a wealth

of attractive illustrative material; the Office of War Information, which provided us with photographs; and Mr. Sam Andre, chief photographer of Pic Magazine, for his encouragement and counsel.

The aid given our Committee by Mr. G. R. Plumb, Chief, Bureau of Food Control, State Department of Agriculture and Markets, and his food inspectors was also especially welcome.

Conclusion

Good nutrition pays for itself. For every dollar properly invested

by government in improving the nutritional status of our people many more dollars are returned in increased vigor, health and productivity.

The science of nutrition has opened up new horizons in man's quest for a longer and more healthful life. The food our farmers produce may, if properly utilized, enable us to build a generation of citizens taller, stronger, more vigorous than ever before in our history. Here for our State and our Nation, is an opportunity and a challenge!

Respectfully submitted:

NEW YORK STATE JOINT LEGISLATIVE COMMITTEE ON NUTRITION

State Senator Thomas C. Desmond, Chairman

Assemblyman Jerome C. Kreinheder, Vice-Chairman

State Senator Edward J. Coughlin, Secretary

State Senator Perry B. Duryea

State Senator Rodney B. Janes

Assemblyman Edith C. Cheney

Assemblyman Benjamin H. Demo

Assemblyman Charles Bormann

NOTE BY SENATOR DESMOND, CHAIRMAN: Since the New York State Joint Legislative Committee on Nutrition made its recommendations on study of fluorine and while this report was still in the process of publication the New York State Department of Health in April, 1944, announced a long-range demonstration to prove the practicability of mass protection against dental caries through adding fluorine to public drinking supplies. The Department determined to introduce into Washington Lake, Newburgh, N. Y., water supply, sodium fluoride at the rate of about one part to 1,000,000 gallons, while Kingston, N. Y., a city of approximately similar size, where sodium fluoride is not present in the city water, was to act as a negative side. In each city 1,000 school children were to have their teeth examined before the tests started, and thereafter the 3,500 children of the ages of five to 12 years in each city's schools will have their teeth examined at least once a year, for 10 years. A comparative analysis will be made to determine whether any improvements have resulted from fluorination of the water.

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This Hungry World



PART I

CONSOLIDATED REPORT

NEW YORK STATE

JOINT LEGISLATIVE COMMITTEE ON NUTRITION

Introduction

By Thomas C. Desmond

Chairman, New York State Joint Legislative Committee on Nutrition

HUNGER stalks many parts of this world—not only during times of war, but also during times of peace. Two-thirds of the people of the world have never had enough to eat. In India nearly half of all deaths occur among children under 10 years of age, and malnutrition is believed to be the chief cause of these deaths. In China, food deficiency diseases are general among a majority of the population. Among our own people, probably the best fed in the world, we find that one-third suffer from “hidden hunger.”

War has made things worse. Reports coming out of enemy-occupied Europe depict millions of people living on sub-standard diets. The daily ration in France yields only 1,084 calories and is deficient in fat, protein and sugar. Tuberculosis among children is appallingly high. A prominent French physiologist, Richet, has been imprisoned for daring to declare that 10 million persons are suffering from hunger and that two million are likely to die.

In Greece, famine has taken a horrible toll. Only the wealthy Athenians can get an ounce of bread on alternate days, camomile tea and gruel, with oil and carrots and chicory coffee. The meat of dogs, rats and cats brings outrageous prices.

To meet the growing needs of our Allies, we have increased our Lend-Lease food from 2 per cent of our food production in 1941, to 6 per

cent in 1942, and more than 10 per cent in 1943. American food has been a great help in feeding Montgomery's army, the RAF, and millions of war workers in British factories.

President Roosevelt has said, “It is safe to say that England could not have continued in the war without the help she received in American and Canadian food.” Our policy has been to put a share of our food resources to the most effective use against the enemy. We are sending food to the liberated people of North Africa, Sicily and Italy. Food is one of our most potent weapons in shortening the war and winning a lasting peace.

One of the most hopeful steps toward freeing the world from the menace of starvation was the historic Hot Springs Conference, at which representatives of 44 nations met to arrange for a mutual attack on hunger and agreed on the need for some permanent United Nations agency on food and agriculture.

But how many tons of wheat and meat and butter and other foods can we spare? How many people will we be called upon to feed and for how long? What commitments are now being made? These are questions which many people today are asking.

To promote public understanding of some of the vital problems involved, our Committee decided to publish two notable reports bearing on world food problems. One is by Prof. F. A. Harper, of the

Department of Agricultural Economics of Cornell University, and is substantially similar to an address he delivered at a public hearing of our Committee.

The other is by Dr. M. K. Bennett, of the Food Research Institute, Stanford University, and was prepared on the special request of

our Committee. To both these authorities, our Committee wishes to express its appreciation for their cooperation. This is one of five reports, edited by the director of our Committee's staff, Albert J. Abrams, assisted by G. A. Yaeger, relating to current nutrition problems.

How Much of the World Can We Feed?

By Prof. F. A. Harper

Department of Agricultural Economics, Cornell University



Vegetables grown in the United States and dehydrated for economical shipment across the Atlantic provide a hot, nourishing dish for little evacuees from London's East End. British War Ministry

PROMISES have been made to other nations that the United States will contribute sizable quantities of food for their needs during the war, and for a time thereafter. Nations having popu-

lations more than 10 times that of the population of the United States may believe themselves eligible for a portion of this promised shower of manna (Table 1).

TABLE 1

PREWAR POPULATIONS OF ALLIED AND OCCUPIED COUNTRIES

CLASSIFICATION OF COUNTRY	POPULATION	
	Number in millions	Per cent of United States
United States.....	132	100
Allies, except United States...	1,089	826
Allies, occupied by Axis.....	233	176
Pro-Ally, and neutral but occupied by Allies.....	81	61
Total, except United States	<u>1,403</u>	<u>1,063</u>

Of course, we shall not have to feed all these people by ourselves. They raise much of their own food. It has been variously estimated that immediately after the war the food deficiency in Europe (including Russia) may be roughly equivalent to the entire food requirements for a population equivalent to that of the United States; this is one way of representing the *partial* food needs of a much greater number of people. In Asia the food needs are tremendous—almost whatever you want to call it, up to that of two or three times the number of people in the United States.

Other nations, like Canada, Australia and Argentina, will contribute some of their extra food. But we have talked much about what the United States would do, and so this discussion is devoted only to the question of what we are likely to be able to do in feeding the world.

It may be said that we do not really intend to feed a very large proportion of these 1.4 billion people. But on the other hand the number of people to be fed may be increased after war, because it may then appear necessary for purposes

of international politics to help feed people in Axis countries.

A common belief is that large surpluses of agricultural products have existed in the United States for many years; that overproduction and enormous food supplies caused the agricultural depression. We have not had any sizable carry-over of food in the true sense of the word, even during these depression years.¹ A false impression of the size of our food reserves can arise from looking at stocks immediately after harvest without deducting needs in this country until the next harvest season. Also, the physical size of the carryover may sound impressive and deceive us unless we convert it into the daily food requirements either of our 134 million people, or of any larger group we may try to feed. The only appreciable food reserves we have are wheat and the inventories of livestock, both of which would feed the 1.4 billion people their caloric requirements for only about three weeks; or it would partly feed them for a longer time. The livestock of the country represents a reservoir of food, but they cannot be eaten and at the same time serve as the breeding stock necessary to maintain our current production of these products.

Can We Increase Food Production?

Another source of food supplies to be sent abroad would be to increase our total food production. But that seems impossible except on the basis of increasingly favor-

¹ Pearson, F. A., Myers, W. L., and Bennett, K. R., *Food Surpluses*, FARM ECONOMICS, No. 125, May 1941.

able weather, which is unlikely. In fact, we are properly concerned with whether or not we can maintain production at recent levels, aside from increasing it. The weather in recent years has been exceedingly favorable and yields have been high.² In 1943 we were again blessed with favorable weather and the resulting yields were probably about one-sixth higher than we had any right to expect.

Reduction of food wastes is a possible means of making our production go somewhat farther. But one highly effective inducement to prevention of wastage is lacking in our present national wartime food policy, namely, retail food prices high enough to place a burden on consumers' incomes. The average person in the United States need spend only 15 cents of every dollar of income to buy the food to maintain his 1935-39 diet; and after tax payments and living expenditures of all types he still has 26 cents left unspent. Under these conditions people are little worried about the cost—or about waste either, until the market is drained of food or their ration stamps are gone, and they cannot get it at any price. All things considered, reduction of waste probably will not help much in fulfilling our food promises to our allies.

We could tighten our belts a little in terms of food intake. But we probably will not do this much for the Nation as a whole. Waistlines may be reduced some, but

energy requirements have been increased greatly for those in the armed forces, for defense workers, and even for the white-collared workers who are relearning how to walk. Each person requires about so much food each day or they will lose weight and energy rapidly. The Chinese people, for instance, do not "get along on a fraction of the food we eat"; studies show that they eat about as much as we do—except in famine areas. But they eat much cheaper and less palatable foods. So we cannot expect our people to eat much less food, measured in calories or in digestible dry matter.

If we cannot find the food for shipment to other countries in our inventories, in increased production, in reduced waste, or in lower food intake, where can we find it? In order to judge the possibilities resulting from changes in our consumption and in the marketing utilization of our products, a summary was prepared of the forms in which we have been using our crop and livestock food products. The summary is based on estimates of 1942 production. The picture which such a summary gives would change some from year to year in its details, but not in its main outlines.

In this analysis the food supply was analyzed in terms of calories. Of course, other considerations are important from the standpoint of adequate nutrition. But this analysis is directed toward the question of how much we can contribute to prevention of world

² Pearson, F. A., Myers, W. L., and Paarlberg, Don, *1942 Farm Production*, FARM ECONOMICS, No. 133, December 1942.

starvation. Calories are the marginal food requirement of people.³ Foods high in calories, though possibly short of other desired elements, are usually the last defense against death of people on the verge of starvation. In fact, about two-thirds of the people in the world subsist continuously in normal times on diets composed of 80 per cent or more of foods of this type—cereals, potatoes, and the like.⁴ An objective of diets throughout the world which are safely adequate in all known nutritional aspects is enticing, but for most of the world it will continue to be a remote dream for the duration and for a long time thereafter. The world's food markets will trade primarily in calories.

About 60 per cent of the food we eat comes from crops (Table 2). Of this amount about one-third is used more or less in its natural form and the other two-thirds in one of the refined or processed

forms. In the refining or processing, those parts edible for humans but less palatable or desirable are usually separated and diverted into livestock feed or other uses; this is common with the cereals and soybeans.

About 40 per cent of the calories in the food we eat comes from meats and livestock products. Milk, dairy products, pork, and lard make up three-fourths of this group.

In a complete listing of our food products, we find a total caloric content 4.11 times our annual food needs (Table 2). Of this total, 1.15 appeared to go into human food channels, and when wastage is deducted the resulting figure would agree reasonably well with our annual food requirement. Livestock feed uses took calories equivalent to nearly three times (2.88) our annual food needs. Industrial uses took about one month's caloric requirements.

³ Monsch, Helen, and Harper, Marguerite K., *Feeding Babies and Their Families*, John Wiley and Sons, Inc. (1943), page 21.

⁴ Bennett, Merrill K., *International Contrasts in Food Consumption*, THE GEOGRAPHICAL REVIEW, Vol. XXXI, No. 3, July 1941.

TABLE 2

DOMESTIC USES AND HUMAN FEEDING POWER OF UNITED STATES AGRICULTURAL PRODUCTION, 1942*

PRODUCT	Per cent of human food from each product	USES OF EACH PRODUCT, EXPRESSED RELATIVE TO UNITED STATES ANNUAL FOOD NEEDS AS 1.0†			
		Human food‡	Livestock feed	Industrial uses	All uses
Cereals:					
Wheat.....	22	.25	.24	...	.49
Corn.....	6	.08	2.06	.05	2.19
Oats.....	1	.01	.29	...	.30
Other.....	3	.03	.11	.02	.16
All cereals.....	32	.37	2.70	.07	3.14
Legumes, dry:					
Soybeans.....	3	.04	.09	.01	.14
Other.....	5	.05	.01	...	.06
All legumes.....	8	.09	.10	.01	.20
Vegetables:					
Potatoes, Irish.....	4	.04	...	...	.04
Other.....	2	.03	...	...	.03
All vegetables.....	6	.07	....	...	.07
Fruits.....	4	.05	....	...	.05
Sugar crops.....	6	.06	.01	...	.07
Cottonseed oil.....	3	.04	....	...	.04
All crops.....	59	.68	2.81	.08	3.57
Livestock and products:					
Milk and products.....	17	.19	.07	...	.26
Pork and lard.....	14	.17	...	...	.17
Other meats.....	8	.09	...	...	.09
Eggs.....	2	.02	...	...	.02
All livestock and products....	41	.47	.07	...	.54
All crops, livestock and products....	100	1.15	2.88	.08	4.11

* Items of production were combined on the basis of their caloric content. Utilization was based on the most recent information that could be found, usually 1942. Figures exclude seed, breeding stock, and surpluses over domestic use.

† Based on requirements of 134,566 billion calories per year, or 3,500 calories daily per adult male equivalent.

‡ Includes some wastage, because of the sources from which derived.

Elimination of use of these crops for livestock feed and for industrial uses would increase greatly the human feeding power of our agricultural production. However, it is not correct to say that if we eliminated livestock feed and industrial uses, we would then have calories enough to feed our Nation 4.11 years. The reason is that without using these crops as part of our livestock feed we would not have as large a figure as 0.47 year's food supply from livestock and livestock products. The 4.11 figure contains some double counting. Crops are included as such, as well as the meat and livestock products produced from them. If we

eliminated entirely the livestock feed and industrial uses of these crops and saved them all for use as human food, we would have more nearly 3.75 times our annual food needs. This would involve sharp reductions in our consumption of poultry and eggs, pork and lard, and dairy products, together with corresponding increases in consumption.

Corn Leads in Food Power

Corn is by far our leading product in feeding power. It is more important than all our other products combined. Although only 6 per cent of our diet is corn or

corn products, our corn crop if all used for human food would supply the country with its food requirement of calories for over two years. The states of Illinois, Iowa, and Nebraska alone produce enough corn to supply the Nation with its human food in calories for a year. Most of our corn is used as livestock feed. The caloric content of the part so used is nearly four times the caloric content of all meat and livestock products in our entire national consumption. And corn is far from the only livestock feed used. Many other cereals are used, as well as the forage crops. This indicates how many calories are lost in converting food into meats and livestock products. To the millions who are now starving, it probably seems wasteful to use as livestock feed anything which could be used for human food.

We in the United States have had a diet composed 40 per cent (in calories) of meats and livestock products only because we could afford that luxury. We like to eat those products better than the things from which they are produced. But converting one into the other is wasteful. Meat production represents a caloric waste of probably 85 per cent; if we feed 100 calories to animals, we get perhaps 15 calories back in the meat produced. This figure for wastage includes the food necessary to maintain breeding stock. The wastage of calories in livestock production is because of (1) incomplete assimilation by the animals, (2) production of "inedible portions" of animals, including death losses, and (3) the caloric

requirements of the animals for activity and maintenance of body temperature.

It is misleading to judge the efficiency of livestock by comparing the pounds of grain fed with the pounds of resulting product. Such a comparison looks favorable for milk for two reasons; first, grain is only a part of the feed of dairy cows, and second, milk is 87 per cent water whereas grain is only 10 per cent water. A similar caution is needed for eggs, which are 74 per cent water, and for meats, which range from 40 to 70 per cent water.

The only way, then, that we can send much food to other countries is by sending our accumulated wheat stocks and by reducing our grain consuming livestock so as to release for human consumption the grain that they would eat. The wheat stocks would disappear rapidly if we tried to feed many people. Furthermore, we have been for many months feeding up our wheat stocks to our overpopulated livestock industries, and in the process losing five out of every six calories. That process is continuing rapidly in the United States, and prospects bid fair to use practically all our surplus wheat as livestock feed before the 1944 corn crop is ready to use. That is the *real* form of food waste going on in the United States now—not what goes in the garbage pail or down the drain!

Any sustained help to other nations will, then, have to come in the form of grain released from livestock feed. If we are willing to do that, and consequently to

shift our consumption "from pork chops to cornmeal," our ability to help feed the rest of the world is fairly impressive. But the help we can give will not amount to much on any other basis. Such a program calls for reduction, not increase, in production of products like poultry and eggs, and pork and lard. It is the opposite of the natural effects of present price policies which are freezing the hog-corn ratio at 15. We cannot feed both increasing livestock numbers and starving Europeans. It would be nice to send them pork chops and butter, but neither they nor we can afford it.

Any program of reducing livestock numbers has the initial effect of rapidly increasing human food supplies. At the start we would have as human food both the meat from the slaughtered stock, and the food released from feeding them. This double effect does not last long. Our entire livestock inventory, on a caloric base, would feed the Nation only about three months. After that we would have to live on the cornmeal without the pork as a side dish.

Direction of Change Indicated

If we were to go the limit and reduce livestock so far that no human food products would be converted into meats and livestock products, we could, with continued favorable crop weather, feed about one-fourth of these 1.4 billion people on a continuing basis. Such an extreme shift is unlikely. But that is the *direction* of change in our

agricultural production and in our diets that will have to occur, if we are to supply much food to other countries. How far we will go depends on the extent of encouragement or discouragement given to livestock production. So far livestock production has been encouraged. So long as we have the livestock, we will feed them; this will help justify our reluctance to shift our consumption in the direction of a cereal diet.

It appears that we have not even made a start, as a nation, in overall food sacrifice. Since 1939, the level of food living appears to have gone up 20 per cent.⁵ This rise is not in calories. It represents more consumption of the highly-prized foods, and more of the various marketing services on food. Riding on the crest of several years of unusually favorable weather for crops, of excess stocks of corn and wheat at the start of the war (which are about gone now, as livestock feed), and of a doubling since prewar in consumers' family incomes, we have expanded our livestock production to the point where even normal weather will create a serious feed shortage. This trend is just the opposite of what must occur if we are to be able to increase the human feeding power of the crops we produce. Aside from the feeding of millions of our hungry allies, the situation has already advanced to the point where local shortages in the United States have been reported of the cheap, "primary foods," like cornmeal and wheat flour.

⁵ Harper, F. A., and Curtiss, W. M., *United States Level of Living Rises During War*, A. E. 466, December 11, 1943.

Figuratively speaking, we can have both guns and pork chops, or we can have guns, and both our Allies and we can have "cornmeal."

How to work this out and maintain adequate nutritional standards at home calls for thorough study by our nutritional authorities.

International Food Obligations and Domestic Food Policy

By M. K. Bennett

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IS THE United States committed internationally to provide foreign peoples with more food than we can supply? Have we led these peoples to expect more than we can deliver? What is the right course to steer between our obligations to them and our obligations to ourselves? Ought we to reorient food-production policies in order best to fulfill our international obligations? Ought we to plan now for prolongation of governmental restrictions of domestic food consumption into the postwar period?

Questions like these have concerned thoughtful Americans for many months. They are framed sometimes with reference to a post-war period, sometimes with reference to the opening up of food-deficit areas by Allied conquest either while war is proceeding in both Europe and Asia, or while war in Asia is continuing but the war in Europe is over. Diverse types of fears seem commonly to prompt the queries. There are panicky fears that our food policy may fail as an instrument of war, humanitarian



British pit boys lunch on American cheese sandwiches

fears that it will fall short of ethical obligations, statesmanlike fears that it may fail as a "lever for peace," selfish fears that international generosity may involve discomforts at home.

Sheer clairvoyance would be required to mold and fix our food policy now in such a way that history will certainly prove it to have been appropriate. The dilemma may be stated as follows: On the one hand, our international obligations may seem now to involve maximum domestic food output in order to provide maximum shipments abroad. On the other hand, overexpansion of agricultural output during and shortly after the war may subsequently involve painful readjustment of price levels and the farm plant if or when European agriculture in particular begins to recover and to shrink the markets for our food exports. No one wants to fail to meet our international obligations. No one wants fulfillment of these to involve us in postwar agricultural depression. But the right course to steer is difficult to see because we can perceive only vaguely what the obligations are in terms of dollars and of tons of food, when they will fall due, how the weather will affect our crops, how war-weary populations may support official food controls when peace comes, or how price levels may behave as time passes. One thing is certain; our food policy must change from time to time in order to meet changing circumstances now altogether unpredictable and largely beyond human control.

Uncertainties or no uncertainties,

a course must be steered. Five points are offered here with reference to it.

1. Our international food obligations cannot be specifically defined now in terms of quantities and values. Nevertheless an obligation exists to supply needy foreign peoples with food, and policies ought to be shaped accordingly.

2. Execution of our international food obligations would be greatly facilitated by prolongation of the powers of the War Food Administration and the Office of Price Administration for some months at least into the postwar period. The present — or improved — governmental machinery ought to be maintained.

3. Whatever the extent of our international food obligations, the historical pattern of agricultural production in the United States ought not to be too greatly distorted because of them. In particular, an all-out reconversion of agriculture such as to maximize grain production to the utmost and minimize livestock production to the utmost ought to be avoided. Nevertheless great care ought to be exercised to safeguard the North American wheat carryover of 1944 against undue absorption by livestock at least until more is known about 1944 production of grain and potatoes in the Northern Hemisphere and about the probable end of the war.

4. Whatever the extent of our international food obligations, the historical pattern of food consumption in the United States ought not to be too greatly distorted because of them. Nevertheless the Ameri-

can public ought to be prepared soon by appropriate official leadership for a civilian level of consumption of certain commodities 15 per cent or so below prewar levels.

5. Conclusion of the war in Europe before the end of 1944 is sufficiently possible to warrant specific planning for it. The end of hostilities there is nearly certain to create a "crisis period" during which food ought to be thrown into liberated areas in large volume. Large stockpiles of such storable commodities as wheat grain, wheat flour, corn grain, corn meal, dried beans and peas, vegetable oils, canned evaporated milk, dried milk, vitamin C, fish-liver oils, and possibly sugar ought to be accumulated now by the appropriate agencies, whether War Food Administration, Foreign Economic Administration, United Nations Relief and Rehabilitation Administration, or Army.

What Are Our Commitments?

Interminable dispute would be possible about the extent to which the United States stands committed to extend food aid (not counting, of course, ordinary commercial exports) to foreign peoples during and after the war. Nowhere in public official documents will one find drawn up a list showing (a) which of the foreign peoples are or will become eligible to receive it, (b) what funds are or will be appropriated to finance it, and (c) what specific foods in what specific quantities are or will be sent to the recipients. Rather, we have on the one hand a series of statements, general in character and not

easy to interpret, by prominent officials about feeding other nations; and on the other hand a series of specific commitments which do not add up to a picture of total commitment.

Little is to be gained by attempting to collect and interpret the statements of high administrative officials. Those statements may well give many the impression that "promises" have been made to "feed the world." "Big talk" there has undoubtedly been; but the unqualified promise is not to be found. Perhaps as strong a statement as any was one ascribed in press reports to President Roosevelt: "No one will go hungry or be without other means of livelihood in any territory occupied by the United Nations, if it is humanly within our powers to make the necessary supplies available to them."¹ This is not a promise to feed the world. For "territory occupied by the United Nations" is not the world, the phrase "humanly within our powers" is restrictive, and "to make the necessary supplies available" need not mean that the supplies or the finance must come from the United States alone. Many other statements by high officials could be quoted to show that the Administration feels keenly the desirability of extending food aid to foreign peoples—at least *some* foreign peoples—both for winning the war and winning the peace. Always can be found, however, either explicitly or implicitly, the qualifications "so far as we can" and "so far as it serves the national interest."

¹ *New York Times*, Nov. 14, 1942, p. 3.

United States food is moving now in noncommercial account to many foreign countries — to fighting allies like Great Britain and the Soviet Union; to the people of a conquered ally, Greece; to some of the people of an ex-enemy, Italy. It may have moved to a sympathetic neutral, Turkey. All of it has been financed by Congressional appropriations, either for the Lend-Lease Act or for the armed forces. Appropriations for the United States contribution to the UNRRA are in course of being approved. Under those, food will eventually move to additional geographical areas though perhaps not to additional political or military categories of nations. Thus the Congress too feels the desirability of extending food aid to foreign peoples. The policy is aid, present and future—not no aid.

It is not clearly to be seen, however, whether the policy is minimum aid or maximum aid. This is not surprising. Food situations abroad must be dealt with one after another as they arise under changing circumstances. It is utterly impossible for the Congress or the Administration to say: so and so many dollars shall be spent for food aid to foreign peoples, no more and no less whatever the tides of war or of international politics; or so and so many tons of this or of that, no more and no less, shall be sent out of the country to aid foreign peoples; or this nation or that irrevocably shall receive and this one or that shall not. In short, a blueprint rigidly to be followed whatever the course of events cannot be drawn in matters of this kind.

About all that can be said with assurance about obligations or commitments is that our country has taken seriously upon herself the task of extending food aid to needy peoples almost throughout the world, but has reserved to herself the determination of recipients, of amounts, and of values as changing circumstances and her own national interests seem to warrant. The commitments are vague. But they are none the less real. Domestic food policies must be shaped with reference to the international obligations, vague as they may be.

Obviously the shaping of domestic policy would be made easier if only the volume, kinds, and value of prospective food needs of foreign peoples could be foreseen, together with the timing of effective demands and the opportunities to supply them from other countries than the United States. On this subject it is rash to venture an opinion. Nevertheless there appears to have been in the United States a tendency to picture prospective food shortages abroad, especially in Continental Europe, as more extreme than they may prove to be when the facts can be known rather than guessed. And, on the assumption that the war in Europe ends during 1944 while the war in Asia continues about a year longer, it seems not unreasonable to suppose that world effective import demands for food and feed from the exporting countries may not exceed 30–40 million metric tons in the first year after the shooting stops in Europe—between two and three times the volume moving in the crop year 1943–44. This might leave wheat, and perhaps a few

other commodities, still in a condition of mild surplus at the end of the first year following cessation of hostilities in Europe, though the international position of most commodities would presumably be tight. In short, if one looks forward to a year of partial peace beginning not many months from now (and is it profitable now to look much farther?), the picture of the world food situation is not one of unqualified, inevitable, and general tightness.²

Governmental Controls

The maximum effective demands of foreign peoples for food (from all sources of supply) presumably cannot emerge until either the war in Europe ends, with hostilities continuing in Asia; or the war in Asia ends, with hostilities continuing in Europe; or the wars in both theaters end. Any of these combinations of events would open up areas not now receiving food from overseas sources, thus raising the volume of world trade from its present level. Demands from the European theater seem likely to run much larger than those from the Asiatic theater. Whichever the course of events, the United States, conscious of obligations, would presumably feel a pressure to export more of many or most foods than is being exported now. Sound policy requires that a step-up in the level of food exports be anticipated whether or not the year (or months) of maximum level of exports can be foreseen, whether or

not the level itself can be foreseen, and whether the year of maximum level turns out to be a war year or an early year of peace.

Our obligations to aid in feeding foreign peoples are governmental obligations. They clearly spread in time from present wartime circumstances to future wartime circumstances to future peacetime circumstances, and they may be supposed to terminate in times of peace. The wartime obligations such as we now assume are fulfilled by governmental agencies. By no stretch of the imagination could they be fulfilled by private enterprise. Existence of international obligations is in fact predicated upon the existence of governmental agencies to fulfill them. This we accept in wartime.

If our international food obligations are to be thought of as real in a peacetime period (not indefinitely prolonged) following the war, then the existence of governmental agencies to fulfill those obligations ought to be taken for granted in at least a short postwar period. This is not to say that *all* wartime agencies now engaged in food management will necessarily be needed then. Probably one or another ought to be terminated, but the choice among them may well be deferred.

The functions that ought to persist for a time into the postwar period, however, can perhaps be specified now. Governmental authority to control prices ought to hold over. Governmental control

² See M. K. Bennett, *Food for Postwar Europe: How Much and What?* (Food Research Institute, War-Peace Pamphlets 5, Stanford University, California, March 1944).

of imports and exports, and of shipping, ought to hold over. The several types of wartime restriction on domestic food use ought to hold over. Governmental allocation of supplies as between domestic and foreign claimants ought to be protracted. It is not so clear that governmental direction of agricultural production will then be as necessary as it seems now. But if our international obligations mean that we are committed to allow foreign peoples in a postwar year or two to share in our food output more or less as they share now, by providing them with non-commercial imports, it seems essential to maintain the existing basic governmental machinery for sharing. Modifications of operation may be possible and desirable, but to junk the machinery altogether would entail the risk of defaulting on the international obligations.

How Much to Strain?

If one has in mind a picture of scores or hundreds of millions of accessible foreign peoples starving or about to starve in the future, together with a conviction that our international obligations are to do our absolute utmost to prevent this, it may seem reasonable to conclude that the appropriate immediate food-product policy of the United States, in addition to an all-out production program, is to abandon livestock production except in so far as animals can survive on materials inedible to man. This would save for human consumption vast quantities of edible items, especially grain, that have customarily been fed to animals. There

is an enormous "loss" of food (measured in calories) in the feeding of grain to animals. As Professor Harper points out, we could—if the weather continued favorable—provide enough food calories for about 350 million people abroad by reducing our livestock so far that no human foods would be converted into meats and livestock products. That is many times the number that we could possibly provide with food calories on the present basis of utilizing our crops.

Such a drastic alteration of our agricultural system, however, would be defensible only on the assumptions (a) that foreign peoples needed or will need all these calories, and (b) that the nation stands under obligation to provide them all. The second assumption is not valid; no such commitments have been made. The first assumption is surely far from valid with regard to the current crop year. In all probability it will not be valid for the crop year 1944-45. Nobody can speak now with much assurance about its probable validity for 1945-46 or a later year.

Even if the assumptions were valid, it would be utterly unwise to jeopardize the future by so drastic a revolution in our agricultural system. To reduce the livestock count so drastically would be to destroy capital, to injure the functioning of a delicate mechanism, and to impair the national diet greatly. It may well be, as Vice-President Wallace has said, that "it is also part of the American tradition that we will not willingly stand idly by in the midst of pre-

ventable starvation."³ But the American tradition equally does not contemplate either reducing our own levels of food use to those of the most wretched populations in the world in order to prevent starvation beyond our boundaries, or driving into poverty the large fraction of our farm population which depends upon livestock for the bulk of its income. Generosity has its limits with nations as with individuals, in historical practice if not in all types of ethical theory.

It would be downright foolish to embark upon a drastic liquidation of livestock so as to release for export enormous quantities of grain, and then to discover that the grain was neither needed nor wanted, or if needed could not be transported to its destinations. That alone is enough of a risk to deter any responsible official from espousing now a genuinely drastic plan for curtailing the livestock count.

Nevertheless there *are* obligations to foreign peoples, and our contributions to them *could be* larger if less grain went to livestock. The problem is to steer the right course. The objective in policy that warrants the most serious consideration now, in the month of March 1944, is that of safeguarding the North American carryover of wheat (as of next July–August) against unduly heavy absorption especially by United States livestock. To safeguard only the United States carryover is illogical, granted the good relations with Canada and increased availability of transportation faci-

lities; no harm would necessarily follow reduction of the specifically United States carryover so long as enough wheat remained in Canada. Our obligations to foreign peoples could be fulfilled so long as Canadian wheat could be drawn upon in adequate quantity—a matter which might well require modification of existing plans and practices, but not drastic or impossible modification. Wheat is the only really large reserve of food in the world, with the possible exception of new-crop corn in Argentina. Yet wheat stocks in North America are currently being eaten up at a rapid rate by the enormously inflated livestock herds. Circumstances have changed. Two years ago, expansion of livestock herds was desirable partly in order to meet demands from our fighting allies, and heavy use of wheat for feed was justified. Now an upsurge of demand for grain products looms nearer and relatively more important.

How large a 1944 North American wheat carryover should be sought? Here opinions may differ sharply. Present prospects point toward some 685 million bushels, of which something like 170 million ought to be regarded as working stocks, not exportable. The remaining (prospective) 515 million bushels, though well above a normal peacetime level, does not look comfortably large if one considers various contingencies—say the coincidence of end of the European war in the next six months with spring and summer drought in the Great Plains of the United States

³ H. A. Wallace, "Food for Victory and Jobs for Peace," *United Nations Review* (New York), Nov. 15, 1943, p. 460.

and Canada and with a very low yield of 1944 grain crops in the Soviet Union. Such a coincidence would throw something like a maximum foreign demand for wheat—and other foods—upon exporting countries at a time when the new North American crops might not be promising much more than enough wheat for a year's minimum use in North America.

Thus the 1944 wheat carryover ought to be safeguarded *now* from inroads due to excessive use of wheat for animal feed, and probably also from inroads due to the use of wheat for production of industrial alcohol, in the next few months. If a measuring rod is necessary with respect to the appropriate size of the North American carryover, a figure of around 800 million bushels seems reasonable at this time. To fix on the right figure is like the problem of an individual in fixing upon the amount of life insurance he ought to carry; he will wish to assure his family of living expenses not too far below their accustomed level, but he cannot in good conscience allow the cost of his insurance to cut too sharply into the accustomed level of family living.

The appropriate mechanisms for holding the North American wheat carryover to the appropriate level need not be fully explored here. But it can clearly be seen that a very important device is the manipulation of prices of hogs, poultry, and eggs in relation to feed prices in order to render hog and poultry production less profitable. No one can be certain, perhaps, that sufficient competence and co-operative spirit exists in our governmen-

tal agencies to accomplish this delicate operation without either forcing an extreme reduction of pigs and poultry or failing to elevate the wheat carryover sufficiently. Yet if the decision to strive earnestly for such a carryover should be taken now by responsible officials, a degree of success ought to be expected to crown the efforts.

This is a suggestion for a concrete numerical objective that seems reasonable now, in March 1944. It is not suggested as an objective equally reasonable for May or June. New-crop developments and war developments from week to week ought to modify it—downward if the end of the war looks increasingly remote and if new-crop developments in Europe and the Soviet Union as well as in North America look increasingly promising, upward if developments are in the opposite direction. The task of changing decisions is difficult. Yet there seems to be no more important central feature of food-production policy than decision about the size of the wheat carryover, with impact upon livestock count regarded as subsidiary. Long ago the Europeans learned that the center of food policy in times of shortage is to safeguard the bread-grain (and potato) supply, adjusting other policy decisions to this. The time has now come, if we take our international food obligations seriously, for us to adopt their broad philosophy.

Consumption Policy

Not all of the food-policy decisions desirable in fulfilling our international food obligations lie on

the side of production policy—safeguarding the wheat carryover and curtailing livestock in the process. Aside from going as far as possible to eliminate waste of food in general by consumers (a matter exceedingly difficult to cope with), official policy might advisably be directed more than it is at present toward future curtailment of civilian per capita consumption of certain classes of scarce foods.

Two of the most important developments that the war has brought are (a) a heavy reduction in livestock count and output in Europe including the Soviet Union, and (b) the shutting off of exports of fats and fat-bearing materials from

Oriental sources now under Japanese control. If we imagine the war in Europe ending in a few months, these two developments alone seem enough to warrant the conclusion that available world supplies of animal products and of fats and oils are bound to run decidedly short in relation to effective demands. Some other commodities may fall into the same category; but it suffices to consider these.

Broadly, it may be said of the animal products and the fats and oils as groups of products, looking forward no more than say 15 months, that any appreciable increase in the present volume of world exports must come from



How many of our Allies will need milk from the United States when war ends? These children in London's East End get drinks made from American dried milk.
British Food Ministry

reduced consumption in the exporting countries. Neither the British nor the Russians receive moderately comfortable supplies of these items now, and the populations of Continental European countries receive hardly any. Everyone has heard of the extreme degree of fat shortage in Continental Europe.

Our international obligations may reasonably be interpreted as involving effort to maintain or even increase our exports of animal products and fats to the British and the Russians, and also to inaugurate a flow to Continental countries when they become accessible. But we cannot provide for this increase by elevation of our production if we must trim livestock count to fit feed supplies and if we have gone nearly as far as possible with oilseed production. Accordingly there exists something of an obligation to scrutinize our domestic consumption of animal products and fats and oils in order to go part way at least in meeting prospective demands from abroad.

The American civilian public ought to be prepared *now* to face in the future a reduction in its per capita consumption of animal products and fats and oils. It ought to be prepared to accept this in good heart not because of dire necessity alone but in considerable part because of international obligations soundly incurred though vaguely stated. Opinions may well differ as to the degree of "sacrifice"—if it must so be called—that the civilian public might reasonably and successfully be asked to bear. Somewhere an upper limit of reasonable sacrifice exists. The opinion of the writer is that leaders

might reasonably ask, and the civilian public might willingly accept, a degree of "sacrifice" extending at its maximum to a per capita consumption 15 per cent below the 1935-39 level with respect to (a) the whole group of foods including meat, fish, poultry, and eggs (not necessarily each of the group), (b) milk measured as whole-milk equivalent, and (c) lard and vegetable fats.

Other foods, largely grain, could be expected to fill the gap in the total diet created by reduction of these. There is little reason to believe that the national nutritional status would be appreciably impaired, at least if one assumes continuation of consumer rationing and suppression of black markets. To ask for a significantly larger degree of sacrifice might be to jeopardize the chances of obtaining public support as well as to subject the distributive system to undue strain. To ask for significantly less might be, in broad terms, to miss an opportunity to elevate the national status in international affairs.

With respect to some readily perishable items in the list of animal products and fats, there would be no purpose in seeking *now* a reduction of civilian consumption. Either they do not now or they cannot now flow abroad beyond the current volume. But with respect to some storable items, especially canned and dried milk, vegetable oils and soap, and perhaps canned meats and dried eggs, stockpiling for future use abroad could probably proceed more effectively now if a general campaign should be launched to prepare the

public for reduced consumption at a later date of the broad groups of food to which these items belong. No such campaign seems now in evidence. Although our food officials may well be firmly convinced that enlargement of our exports of animal products and fats in the future is the right and proper course, they say little to spread the conviction abroad.

Stockpiles

People are said to talk about the weather a great deal but to do nothing about it. Accumulation of stockpiles of food ready to be drawn upon in large volume when hostilities cease in Europe seems likewise to be a subject that gives rise to more talk than action—though quite possibly those who know the sum total of all that has been done by the governmental agencies, including the armed forces, would find the parallel faulty.

If our international food obligations are real and if we intend to move promptly when the occasion arises, stockpiles of food seem essential. Whether victory in Europe comes next June, next December, or a year from next June, the situation in Europe is likely to represent the sudden opening of a great market—larger, of course, if victory comes when the Nazi armies are far from their own borders, smaller if they are near or within them. The chances of Nazi collapse within the next three to ten months, while they still occupy vast territories not their own, seem good enough to warrant plans for the eventuality now. In the event of collapse, one of the principal features of the food

situation would presumably be that in many regions of Continental Europe the normal flow of food from farm to cities would nearly dry up during a chaotic period of uncertainty about governments, currencies, and prices and exchange values of food against other commodities, leaving urban populations notably short of food. Another principal feature would be that other regions like the Soviet Union, where order might be counted upon, would suddenly be opened to receive shipments from overseas in a volume altogether impossible now.

The desirability is obvious of sending a flood rather than a growing trickle of food into both types of regions as soon as the military situation permits. This would be a major factor in stabilizing political and economic affairs; it would crush black markets otherwise probably inevitable, and in the end might even lessen the volume of importation. Without ample stockpiles available at the moment of victory, it is difficult to see how these desirable aims could be achieved. The question of jurisdiction over stockpiles is subordinate—whether Army, War Food Administration, Foreign Economic Administration, or UNRRRA. What is important is the existence of stockpiles and the means of moving them promptly.

Of what, then, ought the stockpiles to consist and how large ought they to be? The question of composition is probably easier to answer than the question of size. First of all, notions of composing a stockpile of all the items that will

British children in an air raid shelter munch sandwiches made of American canned meat



eventually be sent ought not to be entertained; and notions of building a stockpile as if it were a sort of magnified nutritionally-balanced daily ration for an individual ought not to be entertained. The major objective at the outset, in the crisis period, will be to satisfy hunger of many population groups; subordinate to that will be improvement of the nutritional status of children particularly and of those requiring therapeutic treatment. No one can reasonably contemplate the storage in stockpiles of readily perishable items.

The major components of stockpiles might well be wheat grain, corn grain, wheat flour, corn meal, dried beans and peas (including soybeans), vegetable oils and soap, and canned evaporated milk. The wheat flour and the corn meal, stor-

able for relatively few months without undue loss, could first be accumulated and then sold out of stock and replaced with new acquisitions. Management would not be unduly complex if the will to accumulate and the finance exist, and the finance would seem to be available in the combined funds of Army, Lend-Lease, and UNRRA. In much smaller quantities sugar, dried milk, canned meat, vitamin C, and fish-liver oils might well be accumulated. The whole list of stockpiled commodities, without any others, would go far to relieve hunger, improve the health of young children, and afford therapeutic treatment. To complicate the problem of stockpiles with more items may not be warranted. As events unfold during and after the crisis period, decisions about addi-

tional items ought to be reached easily.

The appropriate aggregate volume of stockpiles can hardly be considered intelligently in the absence of knowledge about the division of the burden of supply among the several exporting countries. Only a rough approximation seems possible. The current volume of food-and-feed importation into the British Isles, Continental Europe, and the Soviet Union is possibly somewhat less than 15 million metric tons. It might rise to 30 million or more in the first year after the shooting stops in Europe—an increase say of 15–20 million tons. One may guess that an accumulated stockpile equivalent to a couple of months of this additional supply would serve the purposes adequately; and by no means all of the stockpile would need to be in the United States or to consist of United States produce. From the point of view of quantity the

stockpile problem is not an essentially difficult one; the major difficulties seem to lie in arranging its location in various export areas and in achieving the essential co-operation both between United States agencies and international agencies.

In conclusion, it can be said with some degree of assurance that the United States has not been committed to international food obligations beyond our capacity to fulfill. The task can be accomplished with good management, and with modification rather than drastic revision of domestic policies toward food production and food consumption. Yet the hands of our food managers need to be strengthened by public acceptance of the desirability of prolonging their powers for a time into the postwar period, and by public acceptance of a degree of discomfort in civilian food-consumption patterns.



Soldiers in our army of food production, our farmers have produced the food that
has made us the "best fed nation"

1944 Food Problems

PART II

CONSOLIDATED REPORT

NEW YORK STATE

JOINT LEGISLATIVE COMMITTEE ON NUTRITION

1944

Meeting the Nation's Wartime Nutrition Problem

By Roy F. Hendrickson

Former Director of Food Distribution, War Food Administration

WE ARE entering our third year of war. We are entering it stronger than we ever have been before. In November 1943, we made more than a thousand four-engined bombers. Other war production is in line—and that includes food production. It includes, particularly, nutrient production.

Looking back over the past two years, we see that in none of the commonly measured food nutrients has our civilian food supply, per capita, gone below our pre-war level. In most of the nutrients, slight advances have been made—and in some of them, distinct advances.

What do we see, then, when we look ahead?

We can get the best view of the situation by examining the supply and requirements problems as these come to the U. S. Food Requirements and Allocations Committee. The claimant for civilians is the Civilian Food Requirements Branch of the Food Distribution Administration. This Branch has examined and presented in some detail, commodity by commodity, the civilian food requirements for the current year. This outline is the result of a great deal of work on the part of its nutrition and commodity experts. It has weighed carefully just how much of each commodity civilians are going to need to maintain good health and

high productive capacity. It must have strong arguments to present along side the arguments of other claimant members of the Committee—representatives of the Army and Navy and those who represent our allies, our territories, and liberated areas. It must know, above all, what the chances are of getting the amount of any given commodity asked for. Two main factors are involved in the figures finally set on paper.

First, there is the factor of production—in other words, what will the supply be?

Our Food Supply

We have had a good year in 1943—a better year than was hoped for—with a total food production 4 or 5 per cent above production in 1942, which was a record crop year. The greatest declines were in food grains, commercial truck crops, and fruit—it was a bad fruit year for everything except citrus. The great increases were in field vegetables, in such items as potatoes and dry beans and peas, and in poultry, eggs, and meat animals. We were able, too—though we thought a year ago that it would be impossible—to come close to maintaining the high level of milk production set by farmers in 1942. And although we increased our fluid milk consumption at the expense of some of the dairy pro-



USDA photo by Ackerman

Five per cent. increase in food production was due primarily to hard work of our farmers

ducts badly needed in the push for victory, the fact still remains that our total milk production, including manufactured products, was just a fraction of 1 per cent less than it was in 1942.

We have our farmers to thank for these blessings. They made this record in the face of a late spring and despite the floods and droughts that hit some sections. They made it with machinery that is showing its age and under the handicaps of labor and feed shortages. They already have assured a sizable part of our 1944 food supply.

They have come through beautifully. They have given us more of

the crops we asked for—the foods that carry the most food value per cubic foot of freight space, and the crops that have dual war roles, like soybeans and peanuts. I am sure that we can depend on them to do their utmost to repeat the miracle again in 1944. As always, a lot will depend on the weather. A crop failure would be catastrophic, of course. Against this, we can only hope and pray.

There are other elements in the production picture. Price ratios, for one thing. But the other main factor that we must consider in arriving at the allocation of food supplies among claimants is the factor of demand.

Right now, we must make a fair estimate, on the basis of past experience, of the direct war demands on our food supply in 1944. We can estimate pretty closely what our fighting forces and our allies will require. But now we must be prepared, too, for other war exigencies and even for peace exigencies. We must know what we are going to need if capitulation comes piecemeal or what will be required if Hitler collapses suddenly and completely.

We must think of these things at the same time that we are thinking of demand here at home—the unprecedented demand here at home, which has demonstrated the rapid rate at which food consumption climbs when pay rolls increase markedly.

Let's look back a bit.

At the time that meat rationing went into effect, on the last day of March 1943, we were eating 14 per cent more meat than the average for the first quarters of 1935 to 1939. In fact, we ate so much meat in the first quarter of this year that it looks as though—and this is drawing a conclusion from figures just being compiled—we ate 142.2 pounds of red meat apiece this year. That is 23 pounds per capita more than we would have had if consumption all year had been held to the ration level of 119 pounds. It is 15.9 pounds, or 12½ per cent, above our 1935 to 1939 average. In addition to that, we ate 50 per cent more poultry than we did in 1935 to 1939. We have set a new egg eating high each year of the war. We are drinking 20 per cent more milk than we did even in 1941, and 25 per cent more



USDA photo by Forsythe

An Army mess sergeant tries his own cooking

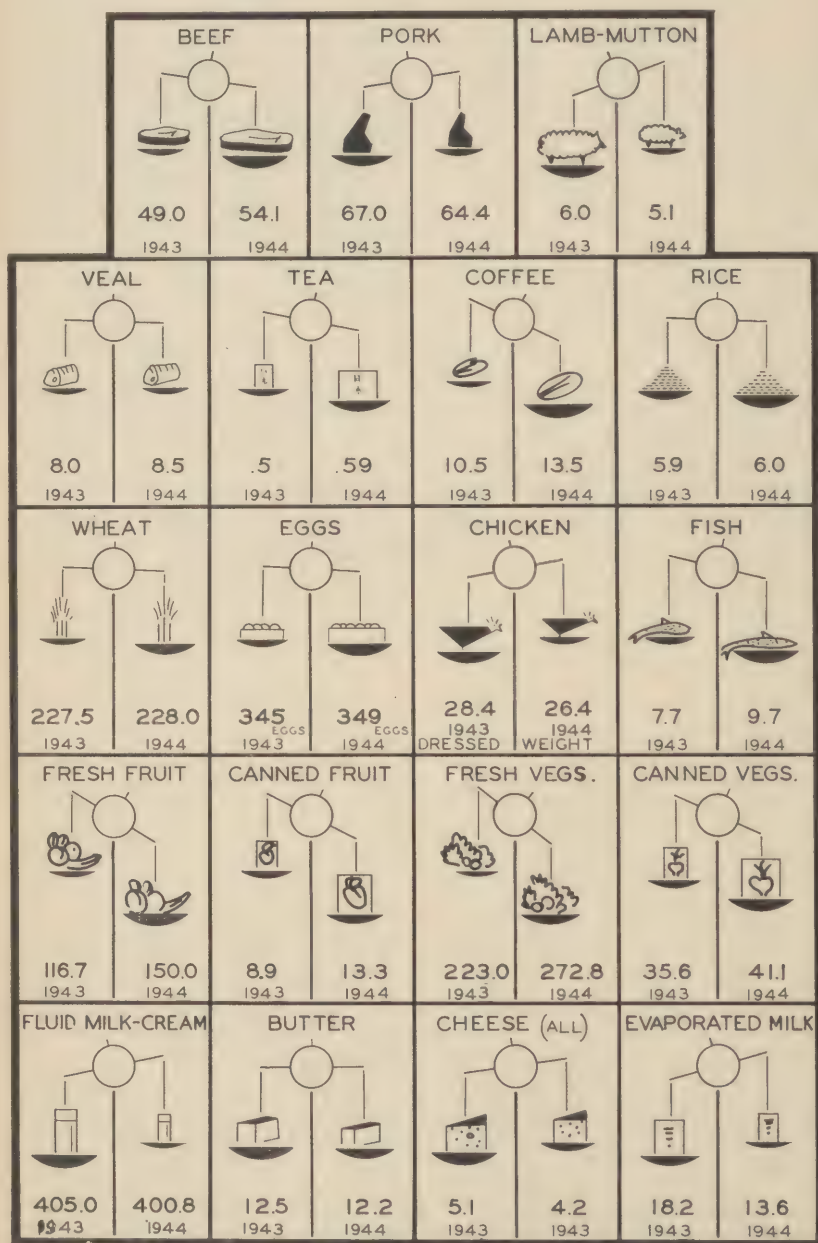
than we did in 1935 to 1939. Before the rationing of canned fruits and vegetables, we were eating 23½ per cent more of these than we averaged in 1935 to 1939.

On the basis of such trends and their relation to increased income, we can estimate what 1944 demand for each commodity would be, if unhampered. I took 17 or 18 of these commodities, at random, some rationed items and some unrationed items, and I figured how much short of demand our food supply will be in 1944, even if we get the full quantities asked for civilians. The figure I got was 15 per cent.

So, obviously, we are going to have apparent shortages of some foods, in some places, at some times. The important question, then, is how will what we get compare, *not* with what we want, but with what we need.

ESTIMATED CIVILIAN PER CAPITA CONSUMPTION

(IN POUNDS)



The Civilian Food Requirements Branch has figured its asked-for quantities on that basis. It has used the National Research Council's Chart of recommended dietary allowances as a yardstick and has gone, in most cases, well above those requirements.

It has asked for definite per capita quantities, in pounds, of dozens of commodities to be made available, for each of us, definite quantities, in grams and milligrams, of such nutrients as proteins, fats, carbohydrates, minerals, thiamine, riboflavin, and niacin.

Looking at the figures, we see no sharp shifts in our diet. There is a general shift from foods expensive to produce, in terms of agricultural resources and manpower, to those less expensive. But the increases asked for are in foods that we have eaten more of this year—potatoes and sweet potatoes, dry beans, and cereals.

Meat consumption during 1944 will be held down to 132 pounds apiece, which is less than the 143 pounds mentioned, but still it is nearly 4 per cent more than we averaged in 1935 to 1939. To supplement that 131 pounds of meat, we will have good supplies of other protein foods. We will have almost as much poultry meat as we've had this year and, we hope, about 20 per cent more fresh fish. We have big crops of dry beans and peas to start the new year with. Hen population promises another 60-billion egg year. We had a good peanut crop and more peanuts than ever before are going into peanut butter and other edible uses. This year has seen the introduction, too, of soya flour and

grits for household use and their increased use as a protein fortifier in such products as macaroni, pancake flour, and muffin mixes. There will be three or four times more soya flour and grits available for these purposes in 1944.

We stand a good chance of having half again as much protein per capita as the National Research Council has set as a recommended allowance.

Butter will continue to be in tight supply. A quarter of a pound a week apiece will remain our share. We will have a little less lard, less of other shortenings, and about the same amount of margarine. Three pounds less per capita of fats and oils than we had this year. But this will be more than made up by the fats we get from other asked for foods—peanut butter, for example.

We went into 1944 with a sizable amount of our record-breaking 470-million-bushel Irish potato crop in storage. Demand has been strong, but we should have enough to carry us through to the new crop this time. We hope that even more potatoes will be planted and harvested next year. We should like to have nearly 2½ bushels for every man, woman, and child. We are asking for more wheat, more corn, more rice.

Between the fats and the carbohydrates asked for, our food energy prospect looks quite good. It is safely above the National Research Council's average allowance for the civilian population and—through such measures as implant feeding, and differential rationing, if necessary—we are

going to see to it that workers in heavy industry get all the calories they need to do a good job.

Importance of Milk

Milk is our one most important food. It adds proteins, fats, minerals and vitamins to our diets. Nonfat milk solids are our one most important source of both calcium and riboflavin.

The maintenance of high milk production and getting the milk channeled into its most effective forms add up to one of our great war problems. The chances of maintaining the production records of the past two years are slight. *There are more dairy cows on farms than ever before in our history, but production per cow is down.* That's because we have record numbers of other livestock—poultry, hogs, beef cattle—competing for the high protein feeds needed to get high milk production. We will be doing well if our 1944 supply is no more than a billion and a half quarts short of this

year's supply, or 57½ billion quarts as compared with 59 billion quarts.

More than a fourth of the milk truck and trailers now in use are more than 10 years old and deteriorating rapidly. Replacements are badly needed and have been requested.

After the problem of getting the milk to market, there comes the question of how it will be marketed.

You can do many things with a



USDA photo by Forsythe

A 60-billion egg year is forecast for 1944, with poultry almost as prevalent as in 1943

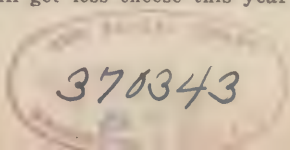
quart of milk. You can drink it, or you can make cheese out of it. You can make cheddar cheese, cottage cheese, processed cheese, or a cheese spread. You can evaporate or condense the quart of milk and put it in cans. You can make ice cream out of it. You can skim off the cream for the buttermakers, feed the rest of it to the pigs or send it to the drying plant.

We have been drinking so many more of the quarts of milk produced that production of two of the more important commodities for waging the war has suffered. Cheddar cheese and dried milk carry more balanced food value per cubic foot of shipping space than any other foods. They are badly needed abroad and measures have been taken to increase their production. Ration points on processed cheeses have been raised to discourage their consumption and, therefore, send more milk into cheddar cheese production. We are trying to peg fluid milk consumption at the June 1943 level, through the dealer quota system. No dealer can handle more fluid milk for distribution to his customers than he did during that month.

Increased consumption of fluid milk is a very fine thing, of course, from the standpoint of national welfare. We don't want to discourage it. That is why the month



Cheddar cheese carries more balanced food values per cubic foot of shipping space than any other food except dried milk. Sorely needed abroad, increased production of the cheese is scheduled, but U. S. civilians will get less cheese this year than last



chosen as a base was one in which fluid milk consumption was at a high level, 25 per cent above the 1935 to 1939 average. Consumption was increasing steadily, averaging 1 per cent gain each month. The peg was established as a war necessity. If it doesn't work or isn't stringent enough under decreasing production, some other system of rationing will have to be devised, if war needs are to be met. We hope this won't be necessary.

But if it *does* work—if it does divert more nearly sufficient quantities of milk to cheese and drying plants—that doesn't mean that civilians will have more cheese in 1944 than they had this year. We will probably have about 37½ per cent less.

Bread

The Civilian Food Requirements Branch would like us to have three times as much dried milk as we had in 1943. It would be a fine thing if this request could be granted. It was hoped, earlier in the war, that a three-part milk solid enrichment of bread could be maintained—with six-part enrichment as a future goal. This would add valuable proteins, and appreciable amounts of calcium and riboflavin to the diets of all our people, whatever their incomes. It holds a bright after-the-war possibility. A six-part milk solid enrichment program would absorb *all* the dried milk production of the war-expanded milk drying industry.

In the meantime, we do have a bread enrichment program. This program now in effect is compulsory and the standard for enrich-

ment has been raised. Each pound of white flour used in bread making by bakeries must carry 2 milligrams of thiamine, 16 of niacin, 13 of iron, and 1.2 milligrams of riboflavin. The old standard required for all breads using the word "enriched" was: 1.66 milligrams of thiamine, 6 milligrams of niacin, 6 of iron, and 1.2 of riboflavin per pound. All, you see, have been increased except riboflavin, but bakers were unable to meet the old riboflavin standard because riboflavin wasn't available in sufficient quantities. It is now. In fact, there is a good chance that we will be getting quantities of it from dried whey in 1944. Large quantities of whey, a by-product of cheese-making that is a very valuable food source, are still going down the drain.

In appraising its stated requirements, our analysts see a year in prospect in which, for the first time, our food supply may contain enough riboflavin—which helps to preserve hair and to keep skin clear and healthy—to reach the National Research Council's recommended allowance. And that is after cooking losses have been deducted.

In these requests for foods containing the necessary vitamins, the estimates have taken approximate cooking losses into account so as to give us a greater supply of each vitamin than we have been getting.

Fruits and Vegetables

In the first year of the war, our food supply made distinct gains in vitamin content. Most of the gains continued in 1943, but we did fall back almost to the 1935 to 1939

average in vitamins A and C. The requests for 1944, then, pay particular attention to the foods that are rich in these two nutrients at the same time that they strive to push our gains in the other vitamins still further.

Still greater supplies of leafy green and yellow vegetables are asked to regain our vitamin A situation, and push it to new heights. Butter is an excellent source of vitamin A, but that, as we have said, will continue to be in short supply. Well over 90 per cent of the margarine now on the market is fortified with vitamin A and plans are to make enough of this vitamin available to make possible complete enrichment. The increases in leafy green and yellow vegetables and in soybeans and potatoes, in addition to the cereal enrichment program, should give us a good margin of safety on iron, too.

The civilian share of the orange crop coming to market is 10 per cent larger than it was in 1942. Big supplies of canned grapefruit juice have just been released from Government stocks to civilian outlets, and point values have been reduced to zero to encourage consumption. We have a good grapefruit crop and a record supply of lemons that will carry us well into 1944. All these are rich sources of vitamin C. There is a lot of vitamin C in that record potato crop, too, and in all those jars of tomatoes on cellar shelves. The vitamin C outlook is good and it can be still better, if farmers succeed in making further production increases next year in tomatoes and pota-

atoes, in leafy vegetables and in fruits.

Increases are asked in beans, peas, peanuts and soybean products to help to hold our calcium gains and to improve the riboflavin content of our diets. Our greatest nutritional gain, since the war began, has been in thiamine and a still further gain in this, as well as in niacin, will result from cereal enrichment, from increases in soyas and peanuts, and from substituting pork for part of the former supply of other meats.

The civilian requirements for food, if met, will put us in a much better position in respect to all minerals and vitamins, commonly measured, than we have held in any year of the war or in any of the seven years preceding it. No wide margins of safety are provided, however. And we may not get all that we want of the foods that we are asking for. On the other hand, there are some food possibilities that haven't been taken into account in appraising the 1944 food supply. They were ignored because they do not enter into the allocations picture. However, they give promise of a nutrient bank account that we may be able to draw on.

Salvaging Vitamins

Brewer's yeast, in far too many cases, has been a sewage problem. It contains excellent proteins and is the richest known source of the B-complex vitamins. The industry has a program for recovering more of it for animal feed and for human food uses. Here again, equipment is a limiting factor. Dry equipment

is needed, but still production is increasing and larger quantities of dried brewer's yeast are being used in the foods that are being developed for relief of liberated areas.

Sodium glutamate is another protein food that was wasted in large quantities. It is being extracted now from the residue that results when wheat is distilled for alcohol. It, too, is being used to give protein content and a chicken flavor to foods that are being developed for liberated areas.

Potential chicken broth goes into the waste pile in factories where chickens are boned. Now more of this is being recovered. Experiments are being made in dehydrating it and quick freezing it and one macaroni manufacturer is working on a new product—a chicken noodle.

Guava is one of the richest sources of vitamin C. It has so much that it even retains an appreciable amount under dehydration. It wouldn't take much space to ship it, and any jam and jelly could carry a percentage, dehydrated, of this pleasant smelling powder without changing the original fruit flavor. Such a program, if instituted, would be to the nutritional advantage of jam and jelly eaters.

These are some of the new horizons that the war has opened for us. There may be still other undiscovered wastes that will add to our food value potential. There is one great waste, of course, that we all know about and that we are beginning to do something about. That is the physical and nutritional food

waste that goes on in American homes.

In many commodities we have likely reached our production limit. We likely have not reached the limits of outside demands on our food supplies. We are not only pledged, by promise, to seeing to it that food follows our victorious troops, but we also must see that it follows as a military necessity. It is cheaper in lives and manpower to win over those who have been enemies than to police them. We have held out the promise of food. It has helped to weaken resistance. The promise must be kept.

So it behooves each one of us to help increase the food supply by not throwing any of it away. We contribute to the heavy losses in retail stores when we pinch fruits and vegetables and then toss them back. We overbuy. Too often refrigerators are packed so that some food gets in corners and is not found until it is too late to use. We throw out odds and ends that would make good left-over dishes. We indulge in these things and give little thought to the hidden waste that comes when foods are prepared and cooked in such a way that many of their nutrients are either destroyed or escape.

We may not be able to allocate to civilians all the food that has been asked for them for 1944. But chances are good that civilians will get enough of that tremendous aggregate to give families, who manage carefully, a better prospect than they have had in years, for getting a nutritionally satisfactory diet.

The Problem of Extending Nutrition Education

Dr. M. L. Wilson

Chief, Nutrition Programs Branch, War Food Administration

WHAT are the 1944 nutritional problems likely to be as I see them in my capacity as Chief of the Nutrition Programs Branch of the War Food Administration? Obviously, a number of significant questions may be posed in addressing oneself to a discussion of this subject. Will the basic problem be one of quantitative shortage of foodstuffs? Is it likely to be one of mal-distribution of an assured supply? How far will it be a problem of the dispersal pattern of food purchasing power; or of specific arrangements to make essential foods available to low-income and under-privileged people? Will it be one or another of other problems related to supply or economic factors—or may it be more particularly one of proper utilization of available foods to best nutritional advantage?

It is, of course, apparent that all of these matters will have an important bearing on the nutritional status of the American people during the coming year. Each constitutes a distinct problem which will have to be met in the fullest possible degree. Most of these questions, however, are tangible problems related to the physical food supply about which adjustments can be made to lessen their severity. Such adjustments are constantly taking place through the facilities of the WFA, the operation of the rationing system, and

all of the national forces which have been built up to deal with emergency dislocations in the production and distribution of necessary foods.

The full facilities of the Government are directed toward providing an adequate supply of food sufficient to maintain the health of the country under wartime conditions. Estimates were made long ago for civilian needs for the country during 1944 and production plans are well under way to meet these and other demands. Supplementary programs are being designed with regard to victory gardens and home canning of food. All of the tremendous resources of the American Nation are in mobilization to guarantee that we do not have any over-serious national shortage of foodstuffs which in itself would constitute a nutritional concern of first magnitude. Apparently at the present time there is every assurance that sufficient food will be available to meet the overall nutritional needs of the country based on essential dietary requirements for maintaining health. This, of course, is barring unforeseen circumstances such as a poor crop year, unfavorable weather conditions or any of the other unpredictable factors that we must always face.

These matters of physical supply are the specific subjects of other papers in this report. This paper,

therefore, is addressed directly to another major consideration, namely, that a nationally adequate *quantity* of food may not, in itself, assure a nationally adequate *nutritional* status. It is essential in addition that the available foods be properly used.

The basic purpose of the national nutrition program over the past several years has been to assure a more adequate nutrition status for the American people and the work of the Nutrition Programs Branch is continuing specifically toward this end. During the past few years it has been increasingly apparent that one of the most fundamental underlying problems in nutrition is that of

getting the individual American to fully understand the significance of good nutrition, what good nutrition means to him personally, and how each one can maintain a satisfactory nutritional status through the proper balancing of their diet from the available foods even under conditions of a restricted supply of certain commonly known and commonly used foods. This problem as well as being a major problem in 1944, is likely to be a continuing one for many years to come.

The Immensity of the Problem

It is overwhelming to consider the prodigious task of translating



USDA photo by Forsythe

Demonstrations by nutritionists are effective in translating theory into practice

into actual "food habit" practice on the part of the 40 million families in the United States the knowledge of proper food values which the technologists and scientists in the nutrition field have been able to build up from their studies in the laboratory. To give point to the immensity of this problem it may be desirable to refer to the National Nutrition Conference held in 1941 and the circumstances which brought the conference into existence. This conference was one of the very few conferences of its kind ever called by a President of the United States. It came about after a great deal of study and preparation over a period of years by Federal agencies, physicians, scientists, and others who were recognizing the need to translate scientific nutrition knowledge into an applied science. The conference itself was the transition point in freeing this technical knowledge and in directing it into popular understanding and use. Realizing how much actually was known in the laboratories about the science of nutrition and recognizing further that this knowledge was held largely by professional people and a relatively few advanced lay people, the conference developed an outstanding recommendation that, in addition to adjustments in the production and distribution of food, an intensive and coordinated program of nutrition education for the general public should be started without further delay if we were to make any permanent substantial gain in the national nutritional level.

To illustrate more definitely the depth to which such a problem in

lay education goes, an analogy may be drawn between a somewhat similar circumstance in a different field 50 years or so ago, which had tremendous implications for good or bad influence on the general health of the people. This parallel is in the field of sanitation. Popular knowledge of sanitation at that time was in about the same relative position as popular knowledge of nutrition is at the present time. We have much documentary evidence of the insanitary conditions that were widespread at this earlier time. Various epidemics due to filth and lack of sanitary facilities took tremendous health tolls. Gradually, however, people were informed of the consequence of the lack of adequate sanitation while at the same time facilities were being installed as rapidly as both resources and actual knowledge permitted. From this condition of very limited understanding of the significance of sanitation in the past century, we have progressed to the present widespread organization of sanitation facilities which now protects the health of the people over most of the country. Also the majority of people are becoming aware of how important it is for them personally to observe the practice of good sanitation.

Education is Leading Nutrition Problem

There are thus definite precedents in the same general type of situation which warrant the statement that a most difficult nutrition problem in 1944 and one that is likely to remain so for many years is how to impart popular

understanding as to what constitutes adequate nutrition and to persuade people to follow the rules of good nutritional practice. During the years since the national nutrition conference a great deal of experience has been gained in trying to lay solid foundations for eventually surmounting this problem. The premise was drawn that nutrition education for the layman was a subject which no one agency could possibly handle because nutrition is such a basic matter that inevitably a great number of agencies and individuals would have to participate. It was felt, therefore, that the program would need to be one of coordination and that the whole approach to handling this problem would have to be an effort to obtain participation by all interested agencies in such a way that their joint efforts would represent a united attack on the whole national problem.

This coordination procedure was inaugurated and is still in the process of being refined, intensified and built up to its full potentialities. At the Federal level, in so far as Government efforts are concerned, there is a coordinating committee which is composed of all the agencies of Federal Government interested in food and nutrition. Beyond that, there is a special planning group representing agencies who have field representatives working with their own particular groups at the State and local level. In addition, civic and welfare groups, labor and the food industries all have cooperated extensively.

Just previous to the National

Nutrition Conference, on the recommendation of the executive committee of the Land-Grant Colleges, each state in the United States formed a state nutrition committee whose function was to correlate the activities of state agencies in attempting to further the knowledge and practice of good nutrition. Immediately following the conference, these committees aligned themselves with the Nutrition Division of the Office of Defense Health and Welfare Services which had been created to follow up the interest and activities launched by the National Nutrition Conference.

In the Nutrition Programs Branch, which is now heading up this work, direct contacts are maintained with the state nutrition committees and with other cooperating groups to facilitate a truly nationally coordinated effort. The whole program is oriented around a central purpose to teach housewives and individuals, themselves, how to utilize the available foods to best nutritional advantage as one means of maintaining health levels under wartime conditions. The organization may be quite adequately described as a loosely federated structure in which the Federal Government, the state and local agencies, and public and private groups and individuals all participate.

Much effective work has already been accomplished at Federal and the state levels toward reaching these objectives. Similarly, a great deal has been done at the local level. This is a never-ending job and there is still great need to in-



USDA photo by Hunton

Housewives meet at home of a local leader to prepare low-cost meal

tensify organization particularly in the local communities so that the skills of the persons who are the leaders in the food and nutrition field can be mobilized to interpret to the rest of the people in the community the things we all should know about nutrition. Looking into the number of persons who are available for this type of service in the local community, there are some thousands of home demonstration agents of the Extension Service and home management supervisors of the Farm Security Administration. Similarly, there are a great number of home economics teachers in the public schools, county and local health officers as well as physicians, Red Cross nutrition leaders and

many others interested in one way or another in the problems of nutrition who have associated themselves with local activities.

Making Leadership Effective

There is thus no dearth of trained leaders, and given a certain food supply situation, the nutrition education problem of 1944 is how this leadership can be so utilized that the housewife can be fully aided in making the best nutritional adjustment to the war food situation in terms of shortages and dislocations of food supply. In the degree that this can be accomplished no one will need to suffer the consequences of lack of knowledge of the simple basic nutrition principles. Therefore, it may be

repeated again that apart from such nutrition problems as are implicit in food supply and economic considerations, the underlying job which still remains to be done is to intensify our efforts to teach people the elementary principles of good nutrition and to get them to observe these principles in actual practice.

Referring again to the fact that this problem will be not only a problem in 1944 but a continuing one, it may be desirable to look somewhat to the longer range situation. In this, the reports of the Hot Springs conference can be considered in some degree as a basis for future policy and objectives in the food and nutrition field. By a brief examination of these reports it is possible to see how significantly adequate nutrition has come to be regarded as an international concern. One of the important premises of the Hot Springs Conference was that nutritionally adequate diets should be the goal towards which world agricultural production and economics should point. This purpose inevitably involves a companion effort in nutrition education regardless of progress and adjustments in world food production goals. People can be badly undernourished in the midst of plenty depending on food habits and customs which militate against an adequate diet. When current scientific knowledge of essential food values can be worked into a permanent system of food habits and customs, and a diet which is nutritionally adequate becomes automatic around an agricultural economy directed toward supplying a nutritionally adequate

volume of food supply, we will then be well on the way to the solution of one of man's oldest problems.

Four Basic Principles

In summing up, it may be well to restate a few points which will need to be kept constantly in mind both for application during the rest of the war period and for permanent guidance. These are:

1. **We need to insure a universally adequate diet that should be made as nearly automatic as possible.** Nutrition education has still a great job to do in eliminating the idea that observing a proper diet is an overly complex matter.

2. **We need to establish definite meal patterns, based upon what we now term the "Basic 7" concept.** The "Basic 7" has been adopted as the popular interpretation of the scientific table of daily requirements of essential nutrients.

3. **The educational process must be designed for application in the local community.** It cannot ignore certain fundamental factors relating to the economic, the racial and social backgrounds of people. This is true in both war and peace.

4. **Every available channel should be utilized in national nutrition education programs.**

The ultimate objective of both the war and postwar nutrition educational program is optimum nutrition for all families. This is still a long way off. Progress will be made, however, as nutrition education continues to shift from a laboratory science to an applied science. All our efforts need more and more to be directed toward this end.

The 1944 Need for Public Education in Nutrition

George R. Cowgill, Ph.D.

Professor of Nutrition, Yale University

ANY STATEMENT of nutritional problems particularly important for 1944 is necessarily conditioned by the fact that our Nation is at war and this war must be brought to a quick and successful conclusion. It is obvious, then, that problems of food production, storage, shipment, and best utilization of our resources must continue to receive the greatest possible attention.

Numerous other problems are nevertheless important. They relate to the perfection of methods by which dietary deficiencies can more readily be detected, studies of the human requirements for specific dietary factors, the factors that influence those requirements, the physiologic interrelationships of various factors such as, for example, members of the vitamin B complex, etc., and numerous other problems than can only be prosecuted on a long-range research basis, problems relating to longevity, ageing and genetics, to mention but three illustrations.

Research nutritionists, and others for that matter, no doubt deplore the effect of the war on their research activities. Shortages of materials and scientific personnel make it difficult for them to maintain continued activity on many problems that classify as basic and fundamental in nature but not as of immediate interest in relation to the war effort.

There is one line of activity in nutrition in addition to those pertaining to food production, processing, storage and shipment, that can be emphasized as important for 1944. This is the need for continued effort to educate the public concerning food and nutrition. Much has already been done in relation to this problem but there still remains much to be accomplished. Consider for the moment what the results of any success attending this line of effort can mean in the over-all picture. At the present time numerous governmental agencies have been established and given specific responsibilities for dealing with our food problems. In the public press and in conversation with our neighbors we encounter criticisms of these agencies and complaints of this and that policy or action taken by them. It is doubtless to be expected that there should be differences of opinion as to specific measures to be taken by responsible parties faced with the necessity for action on a problem; and when many competitive interests are affected, such differences of opinion will no doubt be expressed with vigor. These are to be expected in a democracy. It does seem obvious, however, that the basic answer to this problem must be sought in education of the individual citizen regarding the problems being faced, and the rationale of the line of attack

adopted by those faced with the responsibility of "getting something done." To the extent that every citizen is informed in these matters, we may expect more of the support that only comes from an enlightened public opinion.

The large body of knowledge we now have concerning the science of nutrition has numerous applications in the field of public health. It seems evident that the public health is promoted by everything a private citizen does in the interest of personal hygiene. To the extent that a person supplies in his every day eating habits the knowledge now available concerning the relation of food to good health that person can affect the health of others in various subtle and unappreciated ways, for poor health in an individual reduces his own efficiency, and places a load of some kind on members of his family or his community or both. Success in a program of public education concerning food and nutrition therefore means a substantial contribution to the improvement of public health.

Food economists can easily prove to us that many of the features of our patterns of food consumption are uneconomic and could be changed to advantage. For example, viewing the matter strictly from the standpoint of the overall economic nutritional picture, it is more profitable to raise plants like the cereal grains and eat them directly than to raise them, feed them to an animal, and then eat the animal. There are grounds for believing that food habits represent in considerable measure adaptations to given situations of food

supply. Polished white rice is a staple food for the masses in the Southern Orient and Japan because it is the most readily available cheap food. In Northern China wheat and millet are used. In our own Southern States corn is a staple food, and is so fixed a part of the dietary pattern that attempts to encourage greater use of other cereals containing relatively more niacin and therefore more valuable for the prevention of pellagra encounter great difficulty. Oatmeal is a staple cereal in Scotland but is regarded by the Italian peasant as a food only fit for the feeding of livestock. The native Italian housewife is brought up to regard a liquid fat like olive oil as the proper fat to use in cooking; the idea that solid fat like lard can serve just as well is not readily accepted. Many other examples might be cited illustrating the point that food habits are stubborn matters to deal with and to change. It will doubtless be unnecessary for our people, as part of their adjustment to the war situation, to change their dietary habits to the extreme point of abolishing the use of animal tissues as food. It is reasonable, however, to believe that we will be forced to eat relatively more plant foods and less animal-tissue food for some time at least.

It is now known that we have in this country substantial amounts of various valuable foods that are not now eaten by the American people in amounts that their nutritional values warrant. Common examples often cited are skim milk powder, cotton seed flour, peanut meal, soybean flour, cereal germs and dried yeast. Greater use of

these foods would enable our people to save for use with the armed forces and the populations of post-war Europe other foods that are now widely used.

How can we secure greater use of these lesser-known products?

Any thorough discussion of this question would have to touch on numerous topics, some having to do with processing, marketing and economic problems, but it does seem evident that education of the public concerning them is at least one important factor. No matter how these new foods may be made available for use, their importance to the consumer in the overall food picture must be made evident. This brings us around once more to the importance of increasing our efforts to educate the average citizen concerning food and nutrition. These matters must somehow be brought to the attention of the housewife and others upon whom falls the responsibility for the selection of food to be eaten. If these foods cannot easily be eaten as such and therefore can best be used as parts of various recipes, the people who are to use them must learn this.

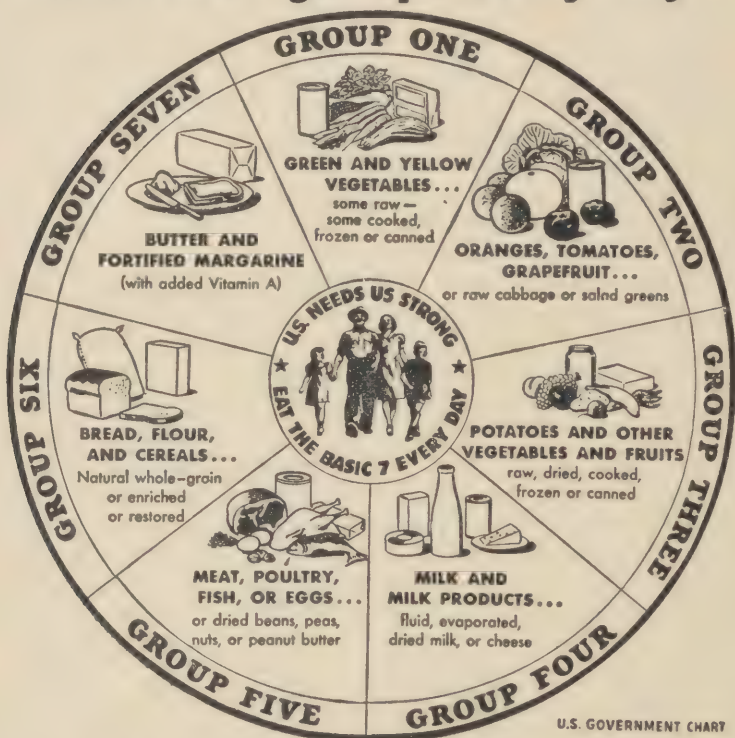
The foregoing considerations make it evident that during 1944 we should continue and even intensify our efforts to educate everyone concerning food and nutrition. This educational program should be prosecuted along several fronts, through the medium of the printed page, the spoken word, and group activities.

Much has already been done through nutrition classes established by the Red Cross, industrial organizations and other agencies. It would be a good idea for nutri-

tion committees in communities that have had such classes to make a survey to determine what housewives have not already attended such classes. The results of such a survey should prove useful in further planning of new classes to be established. In large industrial organizations joint committees of workers and management might make a similar survey of their employees and thus find possibilities for further educational work through the medium of small classes. In many communities special meetings addressed by prominent speakers have been held. The chief value of such a meeting probably lies in its ability to arouse community interest. Unless this meeting is followed up, however, by the provision of small groups of the class-room sort, the interest is likely to wane and the value of the big meeting lost to that extent. The work of dealing with individuals in classes may not be as exciting as attending a big meeting, but it is the work that is extremely important in the long run. It is necessary to get to the people as **separate individuals** the detailed information they need in order to meet their every day practical food problems. Certain Federal agencies have provided us with much that can be used to advantage here. For example, the practical classification of foods into the "basic seven" groups provides both a slogan and a picture; this picture ought to be in every home in the land. It is customary for many business firms to distribute calendars with interesting pictures of one kind or another. A calendar carrying the picture of the "basic

National Wartime Nutrition Guide

*For Health...eat some food
from each group...every day!*



***IN ADDITION TO THE BASIC 7...
EAT ANY OTHER FOODS YOU WANT***

This is the National Nutrition Target, designed by Government nutrition experts to help people plan well-balanced meals. The idea is to include something from each of the seven food groups in the menu every day, to hit the bullseye of good health.

seven" foods and hung in the kitchen would be a means of reminding the housewife every day of the importance of properly selecting the foods to be served to

her family. Perhaps business firms could be induced to finance and distribute such calendars in behalf of a state's nutrition committee or related organization.

The problem of properly feeding the industrial worker has been receiving much attention. The solution of this problem is to be found in part through the teaching of nutrition to the worker in the factory and even more particularly the wife in the home. Industrial organizations can do much to facilitate this educational work. It seems evident that whether the worker gets food in the industrial plant or brings a lunch box, he does eat an appreciable amount of food in his home. Therefore education of the homemaker concerning the proper foods to put into the lunch box as well as to serve in the family circle is very important. In one highly industrialized state a survey showed that the majority of industrial units were small and the workers either brought their own lunch or ate at a neighborhood restaurant; the number of unusually large plants presenting special feeding problems was relatively small. Such being the case, the practical attack on the problem of feeding the industrial workers in that state would seem to be (a) to separate the large plants and attack their particular feeding problems each on an individual basis, and (b) to concentrate on a program of general education on a state and local basis. In this way the vast majority of the industrial workers would be most readily approached and influenced in some degree.

Students of nutrition are aware that food habits are very difficult to change in any short period. It

has been estimated that it took 30 years of educational effort in the Philippines to bring about a change in dietary habits sufficient to affect seriously the incidence of beri-beri. It is generally considered easier to teach new things to the developing younger generation than it is to change the habits of the elders. In view of this one might on first thought view as poor the prospects of good returns in a popular program aimed at the elders. Against this view, however, can be cited the great progress we have already made. Under the stress of fighting a war it has proven possible to get favorable results in a very short period of time.

I do not believe we have exhausted the possibilities for success in this work that can result from use of the spoken word, the printed page, the poster, the motion picture and group activities. It is my conviction that the vast majority of our citizens wish to do their part in this food situation, and when given the needed information and suggestions of what they can do, will respond and do their part. To the extent that they do, this program of popular education will favorably affect the work of all responsible governmental agencies in their efforts to solve their problems for the good of us all, promote the public health through the improvement of individual health, and prepare us to do our share of the work in the difficult post-war days ahead.

New York State's 1944 Nutritional Problems

By Dr. L. A. Maynard

New York State Emergency Food Commission

Basically, our nutrition problem has not changed during the past year, but it has become intensified and it has taken on some new aspects.

As I view it, the overall nutrition problem of New York State is to see that its people get the kinds and quantities of food they need to keep them healthy and effective in their jobs. This is a simple statement of a problem with many ramifications. It is a problem which is common to the country as a whole, but which has more diverse aspects in New York State than in any area of similar size.

With one-tenth of the country's population, we have one-half of our people concentrated in a single city, and we also have sparsely populated rural areas. We have wide diversities as to occupation, which markedly affect nutritional needs. There are also wide variations in food habits and customs which must be taken into account. No single dietary pattern will suffice.

We have a good understanding of what people need for health in terms of calories, proteins, minerals, and vitamins. But these nutrients must be translated into available foods. During this war, we have come to learn that the food supply is an integral part of the nutrition problem. We are experiencing shortages of some of the foods we especially prize, but

the more important problem is concerned with possible shortages of foods we nutritionally need. Here is where production and distribution questions enter.

The Link Between Milk and Feed

There can be no milk for New York City, for example, unless there is feed for dairy cows. This feed supply is now short, and the milk supply thus threatened because dairymen can't get grain, as formerly, from the Midwest where it is worth more for hog feeding. Thus, the corn-hog ratio presents a serious nutrition problem for New York City and the rest of our urban population.

The point I am making by this illustration is that the meeting of nutrition needs necessarily involves the basic question of food supply and necessitates an understanding of the economics and other problems of production and distribution which are involved. For the large urban populations of New York State, dependent entirely upon a constant flow of food from the outside, frequently from distant areas, these considerations are of special importance.

New York State is a large producer of food, both of farm products which are consumed directly, and also of processed foods. These various products are in turn

largely consumed within the State. Mutual interests are thus involved. A consideration as to how both agriculture and the food industries of the State can best serve the nutritional needs of its population to the mutual benefit of all concerned should be an important help in solving our overall nutrition problem.

Checking Food Wastage

It is evident that much could be accomplished in decreasing the wastes that now occur in getting our food supplies to market, to the kitchen, and on to the table. There are unnecessary losses all along the line. While studies would give us further useful information as to the causes and methods of prevention, much could be accomplished in decreasing these losses by an intensive program of public education, based upon facts now available, as to what this wastage means and how it can be lessened.

The wastage is not only in pounds of food, but in losses of specific nutrients which are particularly susceptible to destruction in processing, marketing, storage, and in cooking.

Assuming that we manage our food supplies wisely, there should be enough for all, but we cannot expect to "eat as usual" in a war emergency. Even if there is enough total food on the average, local and individual nutrition problems will increasingly arise because of shortages of specific items, rationing, price situations, and other matters concerned with distribution.

It is helpful to recognize that consumer demand is not identical

with nutritional needs. We have a marked shortage of meat in terms of consumer demand, yet we have more for civilian use than we had in 1935-39. Certainly there is no nutritional basis for saying that we need more. Rather, we could get along with less. On the other hand, long-standing food habits and preferences must be taken into account in providing a food supply which will be acceptable. If food is seriously disliked, no matter how nutritious, morale and work efficiency suffer and consumption may fall below the needs of health.

In the present situation it is essential that people be told why they cannot expect to eat as usual and how they can make the best use, nutritional and otherwise, of the food supply available. They must eat more of some foods and less of others.

I should like to emphasize that we do not eat "averages," and when a housewife wants to know how she is to get food tomorrow, it does not suffice to quote figures that we were better fed in 1939 and 1940, "on the average." That does not help her feed her family.

More Nutrition Knowledge Needed

The achievement of good nutrition in times of shortages of specific preferred foods as well as with a changing food supply in general calls for more nutrition knowledge than usual. Thus, nutrition education which reaches everyone and which explains, in the simplest and most practical terms, the why and how of the present situation, is particularly needed to help solve our

current nutrition problems. People will accept food changes much more readily if they are made to understand fully why sending food abroad to people in re-occupied countries will help end the war more quickly, and thus that this food serves more than a humanitarian purpose.

It was my privilege to spend six weeks in England this summer as a member of a joint commission studying food problems. There in England they have succeeded in doing a better job than we have, with a smaller food supply and a much less palatable diet; and the reason for their success comes down to a matter of public understanding, of a willingness to do things in the interests of getting on with the war. Thus I think that education is going to be one of the main features in accomplishing a nutritional program to develop the kind of a public consciousness which is needed to get the essential things done.

In view of the changing food supply situation it is particularly important that up-to-the-minute information be available on prospective food supplies throughout the State, particularly in the larger cities. By regular use of the press and the radio, housewives should be told what is available and what is likely to be scarce. They need this information so they can plan accordingly.

New Food Products Needed

Broadly speaking, the job we face as a nation is to use our food supplies and food resources most effectively. Among other things,

this means developing new food products which will prove palatable as well as nutritious, from supplies which are not now being effectively utilized, to replace foods which are short. The progress which has been made in bringing soybean products and brewers' yeast into human use is an example of a development which requires further emphasis to help solve our nutrition problems.

A shortage of butter tends to result in a lowered bread consumption, but bread as now enriched is a very nutritious food and we should eat more of it particularly since we have lots of wheat. Thus, the development of palatable and nutritious spreads which will result in increased bread consumption despite the shortage of butter is another means of making better use of our food resources.

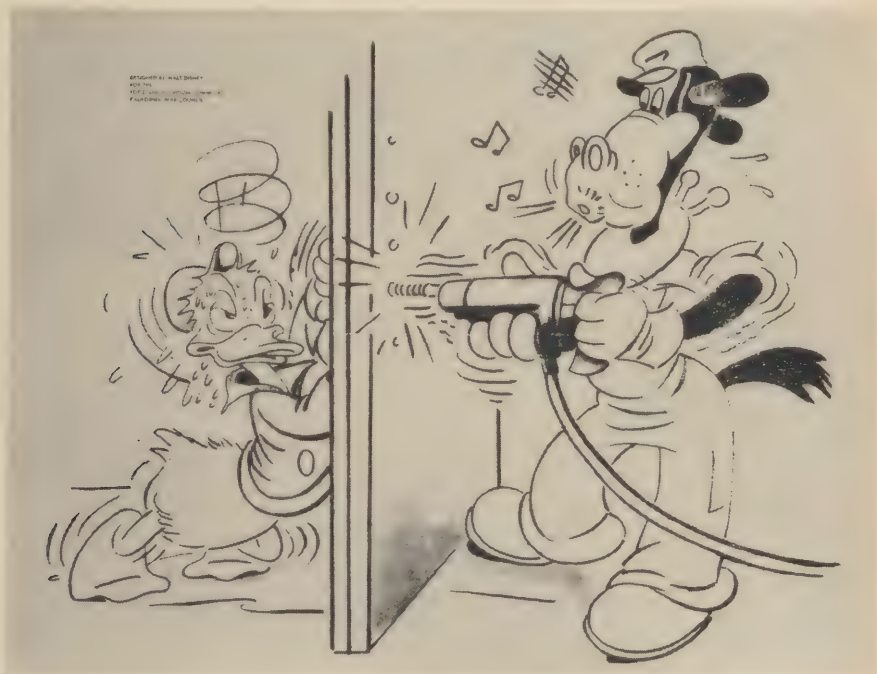
An essential for the most effective use of our food resources is to anticipate the problems which will arise from the prospective supply situation and to plan nutrition programs in advance accordingly. Here substitute foods, new food products, and new methods of preparing food for the table are all involved.

The problem of the nutrition of industrial workers needs much more attention than it has thus far received. Studies in war industries throughout the country during the past year have clearly demonstrated that inadequate facilities for feeding the workers, and a failure on the part of both management and the workers themselves to recognize the importance of adequate nutrition, have been

important causes of absenteeism, lowered working efficiency, and lowered morale. In New York State this general problem, which was stressed in a report of your Committee last year,¹ needs continued and more active attention. It is evident that the solution must come through better facilities for feeding workers in plants, through better prepared meals in these plants, and through better lunches for those who take food from home. The problem cannot be met by feeding vitamin pills.

It is clearly recognized that malnutrition is most prevalent among the low-income groups. This fact calls for all possible economies in

the production and distribution of food. Much more can be accomplished here. At the same time, there should be a full public understanding of essential production and distribution costs and of what food is really worth in terms of health and well-being. Many family budgets are spent in part for items which should be dispensed with until the food essential for health and working efficiency has been purchased. This situation must be corrected primarily by nutrition education. Lower prices of food will not solve the problem. Lower prices simply will not do the job.



You can't breakfast like a bird and work like a horse

¹ "The Nutrition Front," Leg. Doc. 64, 1943.

More Information Needed

We need more specific information as to the extent of our nutrition problem, particularly as it is affected by the changing conditions of the war emergency. Even though the food supply may be generally satisfactory, to what extent are individuals of our population failing to get all they need? How are price policies, rationing, and black markets affecting the nutrition and health of our people? Just what is the nutritional status of our population anyway?

It would seem highly desirable for the State to carry out short-time diet and health surveys of segments of its population to learn what specific situations particularly need attention and to test the effectiveness of nutritional programs in general and of specific remedial measures. Such surveys are frankly expensive, but so is ill

health, and so are all the measures which we undertake to combat its nutritional causes. The gathering of information which will make nutrition programs more effective and which will lessen ill health will also lessen the State's financial burden in caring for its citizens.

The overall nutrition problem is more than a health problem, and it is more than recommending a diet which contains the needed amounts of proteins, minerals and vitamins. It is a problem of food supply and of food economics in which production, distribution, consumer acceptance, and many other factors are concerned. The solution of the problem in New York State requires the cooperative action of various technically trained people and of various State agencies, operating through an integrated program which takes account of all the factors involved.

Challenging Our Food Policies

By Donald Montgomery

Consumers Council, United Automobile-Aircraft-Agricultural Implement Workers of America (UAW-CIO)

THE OUTLOOK for the food supply of 1944 depends primarily on when, if ever, the Government will initiate and carry through a conversion of agriculture, of the agricultural industry, to wartime conditions and war needs.

We know, first, the difficulty of getting an industry converted to war when it would rather go on with business as usual under peacetime conditions.

Our Union, both by campaigning at Washington and through the press, forced the conversion of the automobile industry so that it would stop producing chromium-plated cars and would start building tanks and guns that were needed for war. Our Union was primarily responsible for getting that done as soon as it was done. It was done too late.

We also know what conversion means after the war. We are perfectly well aware of the threat of reconversion and what it means to the security and stability of those who are in the employment of industry. Already we see steel mills shutting down and men out of work. The men in our shops see that just around the corner. Nevertheless, we were for conversion and are for it, despite the difficulty of getting it, and despite the hazards entailed when the war comes to an end and the industry must be

reconverted to peacetime conditions.

Agriculture has not been converted to war. First, because the Government has followed a policy throughout that is primarily aimed at high prices, and through the manipulation of prices and price relationships is trying to accomplish the objectives it has in mind—using almost exclusively this instrument of trying to induce changes in agriculture by raising prices.

Second, because the fear of reconversion as stressed by the powerful groups in agriculture, especially the fear of reconversion and its effect on the market position of the big commercial farms. As a result, the Government has not hooked up to the food production line some million small and middle sized farms whose production could be increased tremendously, and who could have made a very substantial contribution to our total food supply. Also, it has not recruited, mobilized and moved farm labor from areas where farm labor was and still is in surplus to areas where farm labor is desperately short.

It has not taken command of the supplies of feed and other things needed by farmers necessary to do the production job. It has not taken them and allocated them to the places where needed. It has

not ordered the necessary change in farm practices. Always it has been concerned primarily with price.

For some eight years in the Department of Agriculture, I watched the Agricultural Adjustment Administration following exactly that same policy. One began to think that the purpose of agriculture was to produce prices. I used to hope that finally a non-violent revolution would occur, namely, that the Department of Agriculture would begin to look upon food as something to eat. That revolution did not occur during peacetime. Then we came to 1939 and we thought now, at last, the Government will begin to look at food as actually something to eat. No, we were disappointed.

The War Over Prices

In April, 1941, the Government launched its Food for Freedom program, as it was called. Higher prices was the instrument used. Throughout this period of the early war, the Department of Agriculture was fighting the Office of Price Administration, trying to get high prices, while the Office of Price Administration was trying to get prices under control. The President called a halt in September of 1942 to this rise in farm prices, and asked Congress to enact a law. Congress did that, on October 2, 1942. This statute, according to the press, did put a ceiling on farm prices. Actually, it was a joker because it was so full of exceptions it did not change the situation any. After that law was passed, the United States Department of Agri-

culture, then called the War Food Administration, was still fighting against the President and the OPA. I sat in several meetings which were held for the purpose of trying to circumvent the ceilings already established by OPA.

In the fall of 1942, the Department of Agriculture was planning its production goals for the year 1943, its acreage goals. Those goals planned in the fall of 1942, a year after Pearl Harbor, were planned for restricted production. In the first place, they aimed at a reduced supply of feed grains. At normal yields, the acreage provided for feed grains would have brought a very much smaller supply than we had obtained a year before. Something of an informal rebellion took place from Iowa and some relaxation was made in the corn goal.

However, the final goal called for a smaller supply of feed grains than we had before. The 1943 goal called for 30 or 40 million acres less in crops than was possible. On 1944 goals already announced, call for an increase of some 38 million acres in total of crop land. If it is possible in 1944, God knows it was possible in 1943. We applaud the action of the Department in raising its sights for 1944, but we forget that it deliberately held down its sights in 1943.

So, as a result of short feed supplies, we are liquidating livestock, and milk production is threatened for a lack of feed and is already falling off below last year's levels.

Price raising is the only answer so far that the Government offers for meeting this drop in milk production. The farm doctors and

the U. S. Government are proposing only that we lift the price ceilings on milk, if necessary, instead of taking control of the supplies of feed grains and feed concentrates and seeing that they are moved into the deficit areas where milk producers must have them if they are to go on producing. The Government has recently again raised the ceiling on corn, and has raised the ceiling 20 cents a bushel on the feed wheat which the dairy farmer desperately needs.

The Threat to the Milk Supply

Last year I attended a hearing in Detroit called to consider a threat to the milk supply of that city. It was not held by the War Food Administration, which should have held it. It was held by the Office of Price Administration.

It was not a hearing to enforce ceilings on the high feed prices which feed dealers are charging the farmers. It was not a hearing to plan allocation of feeds. Again, as always, it was a hearing to consider whether we should raise a retail price in the hope that enough money would trickle back to the farmers to encourage them to produce more milk.

Actually, of course, such a higher price, even if granted, will be a fraud on the farmers. Farmers confirmed the fact that if they in that area get more money and all other farmers do too, the net result is they will bid more against each other to get what feeds there are. The fact is that there is not enough feed in the feed deficit areas, and the only way it will get there is by Government requisition and

allocation so that feed can be put into the hands of the farmers.

The people of Detroit some time ago sent a delegation to the War Food Administration asking them to do just that. The officials there looked wise and promised to look into it; they promised to let us know. But so far no word had been received from the War Food Administration.

Another example of this price manipulation, this patent medicine, policy of the War Food Administration—its only remedy for all agricultural ills,—affects skim milk. We have been feeding to livestock some 40 billion pounds of fluid skim milk a year, that is the skim milk out of about 50 billion pounds of whole milk, out of a total production of over 100 billion pounds. That skim milk is lost to human consumption. Skim milk, from a point of view of nutrition, is not only the most important part of milk for human nutrition; it is unquestionably the most important single food that we have, because it supplies the calcium and the riboflavin, of which generally there is a serious deficit in our diets.

Feeding skim milk to livestock had been the peacetime practice. Then comes war and what are we going to do in war to salvage that precious milk to see that it goes into human consumption? Great Britain provided that no milk should be skimmed. It sees that all it produces is consumed in full, whole milk form. We have tried to persuade farmers to deliver whole milk instead of cream by changing slightly the price they get for whole

or skimmed milk as compared with the price they get for butterfat. This method has salvaged only 3 of the 40 billion pounds wasted. And the Department of Agriculture itself recently said it expects to salvage only a little more. Of course, they cannot do it merely with price manipulation. It could only be done with a very practical program, to help the farmers change their practice. It would need an increased supply of milk cans. It would need new routes set up so that the milk could be brought from these farms. It would need feed to replace the skim milk, and very likely it would require also some sort of a switch-over subsidy to make it work.

We did not do that; we just manipulated the prices. And then, if you please, when we did put on milk quotas, the Food Administration says that one of the purposes of the quota plan, the primary purpose of it, is to protect and continue the production of butter. This means a continued loss of this skim milk.

The Department of Agriculture states that there was an enormous increase in production in 1942, to the extent that approximately 400,000 small farmers were aided by Farm Security Administration to step up their production.

These farms have manpower and have land, both of which are underemployed because of lack of sufficient capital or equipment or machinery to get out the output which they could do if they were properly equipped. Meanwhile, the war goes on and the potential production of a million small farms

is being lost. Why are those small farms not being cut in on the production line? In my opinion it is because of the threat of the big farmers who determine the Government's farm program.

Farm Labor and Food

Take also the farm labor situation. Public Law No. 45 is the most abominable slave labor statute ever passed in this country, certainly within the lifetime of any one of us. It provides how the Government may use its money to recruit, move or train farm labor from the surplus labor areas of the South to the deficit labor areas of the North. It says the Government cannot move any farm labor from any county without the written permission of the county agent. If you know anything about Southern agriculture, you know whom the county agent acts for. He acts for the Farm Bureau, the big land owners who want farm labor sitting around in that area, living like slaves and working probably 90 days a year. The Dairy-men's League, for example, needs that labor on New York dairy farms, but the League and the Farm Bureau do not want to break up that Southern combination.

That law came up for renewal on December 31st, and according to the press, Mr. Jones, War Food Administrator, appeared and asked for its renewal. The press notice said nothing about his requesting the removal of the slave provision contained in that law. I doubt that he requested its removal.

Now take the soap situation. The Fats and Oils Branch of the FDA

early last summer was crying the blues on fats and oils supply. It curtailed allocation of fats to margarine from 180% to 167% of the base year use; and then it attempted to put through an order that we would charge Russia for the fat in the high-fat soybean flour. Also it refused to approve a program for increased supply of peanuts to the human population in the form of peanut products. Incidentally, they did not get away with that attempt to charge Russia with the fat in the soybean flour. That was not because either the Russians or the American public were in there protesting. But is so happened another division of the Food Administration was acting for the soy industry, and so that industry was in position to prevent the steal on their product.

The November, 1943, issue of *The National Food Situation*, put out by the Bureau of Agricultural Economics of the U. S. Department of Agriculture, states: "Total supplies of fats and oils for the 12 months beginning October, 1943, may be about one billion pounds greater than a year earlier. Lard output this season may increase about 450 million pounds, and soybean and linseed oil production will increase substantially. An increase in imports also is expected. The supply of food fats for civilian consumption, however, probably will not rise from the present level, under rationing, of approximately 44 pounds per capita annually. A large part of the increase in lard production is expected to be required for soap."

Next, a month or so later, the

Fats and Oils Branch reversed its field and claimed we had a great surplus of fats and oils. On that claim it increased the allotment of fats and oils to the making of soap. That allotment had been 80 per cent of the base year; it was increased to 90 per cent for household soaps and 110 per cent for industrial soaps, an average of about 95 per cent for soaps, while the allocation of fats and oils for food uses was held at 88 per cent. So that we are allocating fats and oils to the manufacturers of soap at a greater relative rate than we are giving them to food use.

They did not want to see soap rationed. To avoid soap rationing they have increased the production of soaps by 19 per cent, producing them at a greater rate than before the war, and by doing that they have avoided rationing.

Then they increased soap sales another 9 per cent, by degrading it, requiring that manufacturers should add resins to the soaps.

This has been done in spite of the need for accumulating stock piles of fats and oils, a desperate need for the supply of Europe and also for our own needs a year from now, when the supply of fats and oils for domestic use will not be so prolific as it is now. That seems especially reprehensible when you realize that the rationing of soap would be one of the most useful instruments we could adopt, because there is no commodity in the home which is wasted to such a very great degree as we waste soap.

By rationing it, we would use up less of these precious fats and

oils and keep just as clean as we do now.

Salvaging Fats

We have a nation-wide campaign to salvage fats. We have been getting about 90 million pounds of fats and oils per year from that campaign. Now there is a big hullabaloo to step on it and try to get it up to 250 million pounds. Let's see. If we put soap back to the fats and oils figure of last September, we would then immediately save 280 million pounds. We should get 280 million pounds right off by reversing that order to increase allocation of fats and oils to soap.

Then there is one more thing we should do, or could do. When in April, 1941, the "Food for Freedom" campaign started out, there was talk of an order to require slaughter houses to cut more severely than usual the fats and tallows from the carcasses before they left the slaughter house. That order is still kicking around in the War Food Administration, and it will still be kicking around when the war is over.

The fact is that packers are selling not less, but a great deal more, fat on the meat than normally. Figures released by the Department show that in this year, 1943, there will be sold—on pork—some 700 billion pounds more than usual of the fat that comes to market attached to the pork. That fat is used by wholesalers and others to be made into sausage, and also is being left on the pork chops you buy, and when you buy that extra

as pork chops, you are paying about 35 or 40 cents, though its fat value is about 16½ cents.

So here is another 6 or 7 hundred billion pounds of fat which could be salvaged. But packers prefer to sell it to you for 35 cents and buy it back at 4 cents.

Now another important issue facing American farmers is farm land prices. The Secretary of Agriculture on November 17, 1943, told the National Grange at its annual meeting in Grand Rapids, Michigan, as follows:

"One of the very important aspects of the problem, is that relating to farm land prices. There are some very definite indications that farm land prices are going up like they did during and after the last war. These recent increases are quite comparable to the increases that occurred in the same period of the last war. Do you know that during the last year, average values for the country as a whole, went up about 1 per cent a month—the highest rate on record except for the top of the World War I boom in 1919-1920.

"I scarcely need to remind you what happened in agricultural communities where the World War I land boom was most pronounced."

What is going to happen to farmers is that the small farmers are going to lose their land and the landlord and insurance companies and the big farmers are going to come out of the collapse holding a still larger proportion of the total agricultural productive capacity of this country.

Conclusion

The food supply for 1944 to 1946 depends on conversion of this industry to a real war basis, and that outlook is not bright. Every prospect is that price manipulation and high prices will continue to be the dominant feature of our agricultural policy, and that we will not allocate the feed supplies and other materials and require such change of farming practice as is necessary really to get the stuff produced where it can be produced and when it is needed.

As a result, we are going to continue the over-all mismanagement of the food situation. There will certainly be enough food for our country as a whole, though we will not have enough milk. We have never had enough milk. Low income families will continue to starve on their feet, as they always have starved. That condition will not be changed, except that many fixed income families are going to

have to join their low-income colleagues because of the rise in the cost of food.

One of the tragic results of this mismanagement is that the American public will not go along with our supplying the food which we should supply for the rehabilitation of liberated areas, and that is going to be, indeed, a very costly tragedy, because it is not necessary. If we were managing agriculture in this country, if we had converted food production to the war industry and then managed its use, the American people would be more than willing to go along and be very happy indeed to supply a large share of their food to people across the ocean. But with the mismanaged conditions, it is going to be very easy for people who wish to make it a political issue to argue that we should keep our food at home and not play Santa Claus to the rest of the world. That is going to be a very unhappy result.

Reexamining Our National Nutrition Program

By Robert S. Harris, Ph.D.

Assoc. Prof. Biochem. of Nutrition, Massachusetts Institute of Technology

IN 1941 the National Nutrition Campaign was launched under the slogan "Eat Nutritious Foods" and with the hearty support of Government and private agencies and the food industry. There was some evidence that this well-organized educational campaign was producing improvements in the food habits of the people when this Nation entered the war. Since that time food shortages have seriously interfered with the program, for the milk, meat, butter and other foods which it advocated have been in short supply. In 1943 the War Food Administration even appealed to the patriotism of the people in requesting them not to consume as much milk as in the previous year, in spite of the fact that a 20 per cent *increase* in milk consumption was considered necessary to reach the nutrition goal.

This is a propitious time to examine the National Nutrition Program to make certain that it is based upon sound economic and nutrition principles, for nutrition will undoubtedly receive serious consideration in postwar planning.

This program is based on the advice¹ that everyone eat daily a serving each of (1) two or more fruits, one citrus or tomato juice,

(2) two or more vegetables, one green or yellow, (3) one or more servings of meat, poultry or fish, (4) one or more potatoes, (5) whole grain or enriched cereals or bread, (6) a pint of milk, and (7) one egg daily. These seven food categories have been called the "Basic Seven."

That the public is not following this rule was evident in a dietary survey conducted by our laboratories² in October, 1943. A study was made on 5,000 persons whose economic status and geographical location is representative of the Nation's population. They were requested to fill in a questionnaire listing all the foods and liquids eaten on a specified day of the week. The 3,336 replies received were fairly evenly proportioned over the seven days of the week. It was found that only 41 per cent of the respondents measured up to the Basic Seven standards, in approximate agreement with a similar survey conducted by Gallup in January, 1943.

Our laboratories have conducted a study³ in which food was taken from the homes of people in two representative urban areas and analyzed for thiamine, riboflavin, niacin, ascorbic acid, iron and calcium content. A breakfast, lunch

¹ National Research Council, Reprint and Circular Series No. 115, Jan. 1943.

² Harris & Lockhart, in press.

³ Lockhart and Harris, in press.

and dinner was taken from each subject just as he was about to eat it, and collections were distributed through the days of the week. All foods eaten since the previous meal, all second helpings and all liquids, were included in each collection. The foods were frozen immediately in dry ice and rushed to the laboratory for analysis. The results showed that only 7 per cent of the subjects consumed their full allowances⁴ and only 20 per cent consumed as much as four-fifths of their allowances of the nutrients measured. These two surveys augment those already published⁵ and indicate that the national dietary falls far below established nutritional standards.

It would be unfair to judge the success of the National Nutrition Program for the war intervened before it could demonstrate itself. Yet there is reason to question whether it can ever be completely successful.

Dollars and Diet

In 1936 a classic study was made by Federal groups in this country to assess the dietaries of a sample of the population.⁶ Among the many interesting findings of this survey was the conclusion that a per capita expenditure of \$4 per week for food was necessary to buy a good dietary. Since the average family comprises 3.8 persons, this would require a yearly expenditure of at least \$790 for food, or a total

income of \$2400. This calculation is conservative for it assumes that as much as 33 per cent of the total budget is spent for food, whereas in 1936 it was only 25 per cent and this proportion has slowly diminished until in 1942 it was estimated at 22 per cent.

Thus it appears that a family income of \$2400 was necessary in 1936. On the other hand less than 20 per cent of the Nation's families were receiving an aggregate income of as much as \$2000.⁷

It is true that these data were obtained during a period when this country was in the throes of economic depression. The national income has since soared; so too have food costs. In January 1944, the War Food Administration presented data to show that "the current average cost of the basic food allotment is approximately \$646 a year for a family of four persons" and cited statistics indicating⁸ that the average family must have an income of \$2350 a year. It would appear that the population is still failing to receive a necessary food income, for the W.F.A. advocates the distribution of food stamps to the lowest 20 per cent. Thus in the banner year of 1943 at least one-fifth of the population was still nutritionally "forgotten men."

Why is good nutrition so expensive that it is now beyond the pocketbook of a significant portion of the population? Is it really necessary that the lowest income

⁴ National Research Council. Reprint and Circular Series, No. 115, Jan. 1943.

⁵ Bulletin of the National Research Council, Number 109, November, 1943.

⁶ Stiebeling and Phipard, Circular No. 507, U. S. Dept. Agriculture, Jan. 1939.

⁷ "Consumer Incomes in the United States, their Distribution in 1935-36" National Resources Committee, U. S. Govt. Printing Office, 1938.

⁸ *Boston Herald*, Jan. 6, 1944.

groups be assisted by food subsidy, stamp plans or outright cash benefits if they are to be well nourished? Are there not ways to avoid the degrading effects of nutrition alms-giving? Are not the foods being advocated for a good dietary really luxury foods, the foods one would prefer if he could afford them but should not demand if he is poor?

For centuries mankind has fed on dietaries composed mainly of staple foods (cereals, legumes, tubers, and root vegetables) that are relatively simple to produce, store and transport. They are inexpensive for they do not require refrigerated cars and special processing, and do not easily spoil. In meeting the demands of civilization and urbanization, these foods have been refined and processed until they no longer supply sufficient nutrients to meet the needs of the people. As a result widespread malnourishment developed.

Nutritionists became conscious of this problem less than a quarter century ago. It was found that a greater consumption of green and yellow vegetables, milk and fruits were useful in restoring to American dietary the nutrients that had been removed or destroyed in the milling of white flour, the roasting and processing of cereals, and the canning and preservation of foods. This was the beginning of the "protective food" era.

Enrichment Offers Solution

During the last several years the synthesis of vitamins has devel-

oped into a huge industry. Today these precious nutrients can be bought much more cheaply as crystals from the chemist than as food from the farmer. There will be many who, with some justice, will contend that natural foods are nutritionally superior to enriched processed foods. It is folly to hope that the people will soon be educated to demand unprocessed foods. Palatability, not nutrition, governs the choice of foods.

It is our belief that the enrichment of white flour, white bread, prepared cereals, refined fats and perhaps sugar enriched with vitamins and minerals is the key to the final solution of this Nation's nutrition problem.

To illustrate the importance of staple foods let us take white bread and flour. In the milling of flour significant quantities of thiamine, riboflavin, niacin, iron, and other nutrients are removed. It has been suggested that these nutrients can be supplied by increasing the amounts of "protective" foods in the dietary, but Jolliffe has shown⁹ that to replace only the thiamine lost to the average diet by the milling of flour one must eat daily a combination of approximately 1½ pounds of fruit, 1⅓ pounds of potatoes, 2 pounds of other vegetables and 1⅓ quarts of milk *in addition to the other foods now in the dietary*. This is an expensive way to replace nutrients. Furthermore, the bulk of such a food addition is prohibitive to most adults.

The nutrients of wheat may be restored to flour more expedi-

⁹ Jolliffe, Internat. Clin. 4, 46, 1938.

tiously by enrichment with synthetic vitamins and with minerals at only a fraction of a cent daily. As a war measure the enrichment of bread with prescribed amounts of thiamine, riboflavin, niacin and iron sufficient to bring these nutrients to whole wheat bread levels has been made mandatory. Witnesses testified¹⁰ that no deficiencies of thiamine, riboflavin, niacin, calcium and iron would have been found in the dietaries of the people in 1936 had the bread and flour been enriched to the levels proposed by the Food and Drug Administration. While we have data to show that these calculations may not be correct, it is very evident that the addition of minerals, vitamins and even amino acids to processed foods to raise them at least to the nutritional quality of unprocessed foods offers the economical and practical solution.

After all, the "protective" foods are not rich in the vitamins in the B group (thiamine, riboflavin, niacin, etc.) the vitamins most commonly lacking in the American dietary.

We must not be arbitrary in designating what mankind must eat for well nourishment. Good nutrition results from eating requisite amounts of some three dozen nutrients and it does not matter whether these are furnished by milk or sesame seeds, oranges or chili. We should not predict calcium starvation to those who do not consume milk, for other foods can be found which will provide this mineral. We should not contend that one-third of the dietary pro-

tein must be from animal sources, for it is possible to receive ample amounts of essential amino acids from vegetarian diets. We must not promise that only those who eat each of the "basic seven" food groups daily will be well fed, for often it is not true. Furthermore, it is not difficult to devise excellent dietaries which include only a few of seven food categories.

Food Nutrition Need Not Be Costly

Mexico has a nutrition problem much more serious than that of the United States. Our laboratories are making considerable progress in revealing the high nutrient content of many of the Mexican foods and the amazingly high quality of some of them. Recently we have analyzed the few foods which comprise the dietary of the Indians in the Mesquital valley. This area is arid and scarcely supports life, yet clinicians from the Rockefeller Foundation could find surprisingly little evidence of malnutrition among them.

One of their foods, which resembles spinach when cooked, was shown to contain in one serving enough calcium, iron, vitamin A (as carotene) and ascorbic acid to meet the daily needs. It also contained significant amounts of other vitamins and minerals. A second food, a luscious cactus fruit which presumably serves to quench the thirst, was rich in ascorbic acid. Some seeds were excellent sources of calcium and manganese, and hot pepper was rich in carotene and

¹⁰ Federal Register, 8, 7511, (June 5) 1943.

ascorbic acid. Thus these Indians were able to achieve good nutrition by eating plants gleaned from a forbidding soil. Good nutrition *can* be cheap and can be attained in those areas least blessed by nature.

We are of the opinion that the National Nutrition Program may be ill conceived because it advocates dietary too expensive for 20 per cent to 50 per cent of this Na-

tion's families. It may eventually compel many millions to accept food subsidy if they are to be well nourished. It appears to us, however, that good national nutrition can be achieved with a more humble and less expensive dietary. Staple foods, either natural, or processed and enriched, promise a simple and inexpensive solution to the malnutrition problem of this country.



1944 Food Production Goals

N. E. Dodd

Chief, Agricultural Adjustment Agency

A NUMBER of persons have expressed concern about future supplies of food here in the United States. Some have periodically raised the bogeyman of famine and starvation. They have predicted unbearable food shortages, and have forecast a ruination of the Nation's health. Such predictions and forecasts are without a sound foundation.

The facts are that American civilians are eating very well. There are fewer under-fed people in the United States today than probably any other time in our history. And everything indicates we will continue eating about as well during 1944 as we are eating

now. Furthermore, the food we are eating is richer in essential nutrients than it was before the war.

Despite all that has been said to the contrary—these are the facts: Sometimes the selection of foods is not as great as it used to be. And sometimes certain luxury foods are difficult to find. But doing without some of the frills and fancies is a long cry from famine and starvation. Our food situation is good and will continue to be good.

And this is no accident. Our favorable food situation is the result of plans, preparation and actions of the past.

1943 Output

Despite wartime production difficulties, total food output this year is higher than it has ever been. 1943 was the seventh consecutive year that farmers have broken all previous food production records. In 1937—seven years ago—total food production in the United States reached a new all-time high. And every year since it has gone up. Production during 1943 was 5 per cent greater than the record crop of 1942—and 32 per cent greater than the average production from 1935 to 1939.

I repeat—this production record was no accident. Production plans were made and executed. As a result we got huge production—and the biggest increases were on the crops that were needed most for the war.

For example, last year's crop of soybeans and flax was four times as big as the crop grown in the average year before the war. The peanut crop was two and a half times as big. And farmers produced half again as much meat and eggs. I could cite a whole lot of similar figures. But that is enough to show that the largest increases have been in the products that are needed most.

That production record will stand by itself. But, the record itself does not reveal the reasons behind it.

Background

A decade ago, in the early 30's, American agriculture was bankrupt, both the farmers and the land. Agriculture was bankrupt because of an extended period of low prices and attempting to main-

tain income by increased production. This resulted in millions of acres of land becoming unproductive because of overuse and poor care.

With the beginning of the farm programs in the early 30's agriculture began getting back on its feet. Farmers learned how to practice conservation farming. Dust bowls were reclaimed. Much erosion was stopped. The fertility of the land increased. And even more important, farmers learned how to bring about immediate increased yields by the use of conservation farming methods. Conservation farming has played an important role in bringing the productivity of the land to its present all-time high level. Largely as a result of conservation work, per acre yields have averaged 20 per cent more during the past five years than during the previous 20 years, and on some crops the increase has been phenomenal.

During this same period that farmers were building up their land, they had also stored away huge reserves in the Ever Normal Granary. Our granaries and warehouses were bulging with such crops as wheat, corn and cotton. Farm production facilities were ready to go. Fences and buildings were in good repair. Farms were well equipped with good machinery.

Farmers all over the country this past winter, as they did in the previous winter, made their plans for next season's production. They need to know a number of things before definite farm plans can be made. The most important item is national needs.

The Food Situation

These needs were determined by W.F.A. and will require the planting of 380 million acres of crop land—16 million acres, more in 1944 than was planted the past year. To attain these goals will be difficult—every acre will need to produce its maximum.

This coming season will not be the last when top production is needed; we have got to keep the land in shape to keep up a high rate of production in the following years.

Agricultural leaders were in a position to know what could be done with the production facilities available. Consequently the needs were taken to these people. The results of the discussions at these meetings assure us the production needs are attainable and within reason.

Some adjustments in livestock production will be needed if total food production is to be kept in balance. We have a large supply of feed, but the numbers of livestock are even larger. We need all the milk and eggs it is possible to raise. So, to make our feed supplies go around we will need to drop back a little on hogs, and market more beef cattle. In general terms those are the adjustments to be made for the country as a whole. Some of them will affect farm production here in New York State. For example, a reduction of hog numbers in the Corn Belt will make more feed available for dairy and poultry production here in this part of the country.

Another adjustment that will affect you directly is the reduction

in broilers. We are asking chicken producers to raise 15 to 20 per cent fewer broilers in 1944. That is to make more feed available for dairy herds and laying hens.

There is one more fact I would like to point out in this business of adjustments. I will stick to the hog and broiler example. A year ago we asked producers to increase production on hogs and broilers. Now we are asking them to cut down their production. Some critics say, "What's the matter? Can't you make up your mind?" Of course we can make up our mind. Here are the facts.

In 1942, we had abundant feed supplies, and we were a little short on meat so we asked farmers to raise more hogs and broilers. Now we need to cut down some on hogs and broilers and use the feed for milk cows and laying hens. That is what we mean when we talk about adjusting production.

In November, 1943, State agricultural leaders set goals for 1944 production in New York State. I will not list all of those goals, but here are the major ones. About 7½ billion pounds of milk. One hundred seventy-five million dozen eggs. Two hundred thirty-seven thousand acres of potatoes. One hundred and forty-two thousand acres of dry beans, and 260,000 acres of vegetables—about half for canning and half for fresh use.

That gives you an idea of the food production plans for 1944. In carrying out these plans, farmers will run into a number of production problems, problems on farm machinery, fertilizer, labor, price, livestock feed and so on.

Problem Spots

We are working on those, too. From some aspects the situation looks better than it did in 1943. Briefly, I will review those problem spots individually.

The farm machinery outlook has improved considerably. About twice as much machinery is being manufactured for 1944, as was made for 1943. But, there still will not be all the new machinery farmers would like to buy. Some items of farm machinery will still have to be rationed in 1944, but the list of items to be rationed is much smaller than last year. There is still a great need for keeping in repair all old machinery that can be used. This year there are no restrictions at all on the amount of repair parts that manufacturers can make.

The fertilizer situation has also improved. There will be more fertilizer available next year. There will be 10 to 12 per cent more chemical fertilizer—that is, more nitrogen and phosphate, but a little less potash.

We have also taken steps to see that farmers can get more limestone this year. Last year they spread about 19 million tons of limestone, under the AAA conservation program alone. In 1935, the year before the conservation program began, farmers spread only 3¼ million tons.

The supply of packages and containers will continue to be short for the months ahead. Transportation will continue to be a major problem. Gas supplies are getting more limited, but I am sure that farmers will get the gas they need for essential purposes. Old trucks are wearing out much faster than



USDA photo by Forsythe

Twice as much farm machinery may be produced this year as in 1943

they are being replaced by new trucks. Freight cars are also wearing out faster than they are being replaced.

Through the Extension Service we are working on the farm labor problems, too. Labor will be scarce again in 1944, but we do not expect it to present any unusual problems except in a few specific areas. The main difficulty will probably be to get the workers where they are needed when they are needed. As in 1943, farmers will have to rely in the peak harvesting periods on voluntary help from the towns and cities.

Since prices always play an important part in production we are proposing supports to get the necessary production of critically needed items.

The dairy feed payment program announced for the last quarter of 1943 provides for supplemental payments directly to dairy farmers. The rate of payment

here in New York is 50 cents per 100 pounds for whole milk and five cents per pound on butterfat.

Livestock feed will continue to be one of the chief problems in this area. But the situation looks better now than it did six weeks ago. Due to a change in shipping conditions on the Great Lakes 20 million bushels more feed wheat than we had hoped for has been shipped into this area.

In all during 1943, 200 million bushels of feed have been shipped into the Northeast over the Great Lakes. That compares with only 118 million bushels shipped in over the Great Lakes in 1942. Of course, there has been less grain shipped in by rail.

The situation on feed concentrates is not as bad as it sometimes appears. We have a slightly smaller supply of concentrates per animal unit now than we had a year ago because we have such a high livestock population.

New York dairymen are now feeding less concentrates than they did during the last two years, but they are still feeding more than they did before the war.

In December 1943 very little corn moved into New York State and it is hard to tell just what the situation will be during the rest of the year. I can tell you this: there is enough feed in this area to take care of immediate needs, and the War Food Administration is doing everything in its power to get the essential feed into this area.

In brief, that covers the trouble spots in 1944 farm production. We know these trouble spots are not going to be easy to get around.

1944 Food Goals

All in all, everything points to even greater food production in 1944 than last year. The production goals set for 1944 by State farm leaders, if fully realized, will result in a total food output 38 to 50 per cent above the prewar average and 4 to 6 per cent above this year's record output. I want to emphasize—these goals are based on normal yields—not on the above average yields of the last two years.

The goals recommend some increases in total milk and egg output, a slight decrease in chickens and turkeys raised, and a sufficient volume of livestock slaughter to reduce the number of meat animals on farms from the record high point reached this year. Altogether the indicated slaughter of meat animals during 1944 would result in an 8 to 10 per cent increase in total meat supplies in 1944. The combined output of poultry, dairy and meat products under the goals would be 4 to 6 per cent larger than the all-time high reached last year and over 40 per cent above the prewar average.

Food Allocation

Now, as to the use of this huge food supply—several large groups of people are sharing it. We are sharing food with our Allies, but all too often civilian food shortages are blamed on the shipment of food abroad. The fact is, in 1941 our Allies got only 2 per cent of our total food supply. In 1942, the year Germany over-ran the Ukraine, about 6 per cent of our total food supply went to lend-lease. The



OWI photo by Palmer

Armed forces get 13 per cent. of our food supply, Allies get 12 per cent., and civilians 75 per cent.

past year, because of increasing Russian shortages and the need of liberated peoples in North Africa and Italy, we sent about 12 per cent of our food abroad.

Our armed forces will get 13 per cent of our total food supply, and 75 per cent is going for our own civilians. That 75 per cent we are setting aside for civilians equals more than 100 per cent of what civilians got in prewar years.

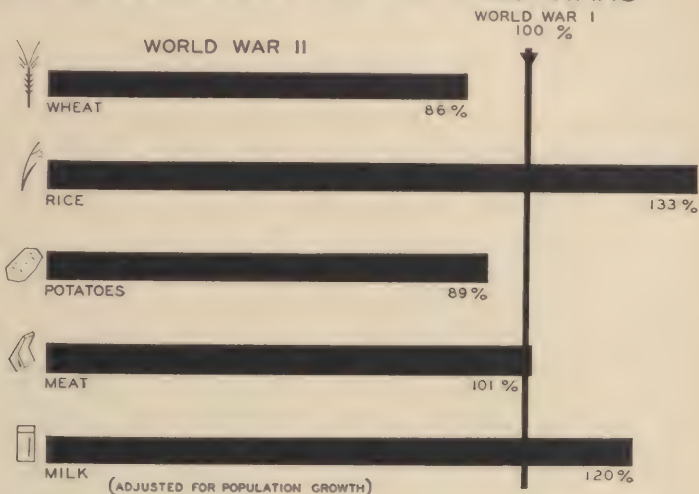
Of course, it is impossible at this time to know just how large the military, lend-lease and war services needs for food will be in 1944. I think we can assume that as we liberate more starving people from the heel of Nazi Germany,

we will need to use some of our huge food supply to help feed them. And I am sure that every person in this room would insist that we do something to provide food for these starving peoples. We can do that and still have about the same amount of food for civilians providing we get normal yields in 1944.

Conclusion

Now in conclusion, here is a brief review. American people are eating better than they did before the war, and there is every reason to believe that we will continue eating about that well in the future. Farmers have laid their plans to

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make 1944 another record year in food production. There will be about twice as much farm machinery this year as we had last year. More fertilizer will be available.

Farmers will continue having transportation difficulties. But by tackling that problem locally, we think they can get the crops produced and marketed.

The farm labor situation will again demand a lot of local volunteer cooperation. We propose to continue price support to assure needed production of critical food items. The livestock feed supply will be limited, and there will be less feed per animal next year than there was this year. But, by proper management, we think we

can make the feed supplies go around.

1944 production is not going to be easy.

The War Food Administration will not be able to handle all the problems from Washington. We will have to rely heavily on the farmer committeemen and other leaders in the states, counties and communities. We are going to count on city people to continue growing victory gardens and to continue helping with emergency farm work.

There is no question about it. This will be a difficult year, but we are confident the farmers of the United States will again come through—and the American food situation will continue good.

1944 Food Prospects and Problems

By Paul S. Willis

President, Grocery Manufacturers' Association

THE COMING of war, in December, 1941, threw into sharp relief the fact that while food is the Nation's largest and most vital industry—it has long been a step-child in Washington. When the Nation mobilized for war, all of the fanfare and commotion were about ships and guns and tanks. Food was either forgotten or taken for granted. People forgot that the swiftest, most deadly airplane ever designed is worthless unless there is a keen, alert, healthy pilot to direct it. Food is the greatest munition of war because it is the ammunition of men. But it is only recently that food has been recognized as our No. 1 offensive and defensive weapon.

I want to make it perfectly plain that I mean food was neglected only by the top men who devoted most of their time and energies to other things. There were in Washington many people in key positions who had apparently been waiting for just such an opportunity to get control of food. These people were not fooled as to the importance of food. They knew that if they could control it, they would have an unrivaled chance to put into effect many of their pet theories and reforms. Long before Pearl Harbor, the food industry strongly advocated practical, sound price control measures, because industry leaders knew that with the inevitable shortages which would result from the war, prices would sky-

rocket unless they were equitably controlled. The food industry was also the first to advocate rationing of short supplies as the democratic American way to see to it that everyone got a fair share of the available food.

But the theorists were in the saddle, and as soon as Congress delegated power of price control and rationing to an administrative agency these people had a heyday. The industry was ignored in the drafting of its original rules and regulations. As long as possible industry leaders were kept from the councils of those who had life and death control over countless, productive businesses in the food field.

The contribution the food industry has made in our march toward victory has been huge in spite of these handicaps. Almost overnight the industry was called upon to multiply its tonnage. Similar demands were made upon many industries. For example, the automobile industry, aviation, steel and many others were called upon to step up production to unprecedented levels. But there were two great differences between the problems of the food manufacturers and the manufacturers in other fields. While the food industry was shackled with countless rules and regulations and while it was being seriously threatened by a whole new philosophy which might well have destroyed it—the manufacturers

of machines and munitions were showered with favors, preferences and priorities.

The second great difference is that while most industries were called upon to produce for war alone, the food industry was asked to deliver more and more foods to the civilians here at home, while at the same time it turned out enough food to make the biggest army in the history of America, the best fed army in the history of the world.

In addition to the stifling rules and regulations, food manufacturers were deprived of the men, metals and machinery with which to do the monumental job demanded of them. Fortunately American management was foresighted, for long ago it established research laboratories through which to solve its problems.

There are over 600 research laboratories in the food industry, and the scientists who work in them, coupled their skill with the ingenuity and determination of management, and ways and means were found to meet the requirements. When tin was denied, substitutes were found. When these substitutes were denied, substitutes for substitutes were found. But the job has been done, and America is still the best fed nation in the world.

Recently the people in top administrative positions in Washington have begun to recognize the essentiality of food. There have been changes in personnel within the OPA and other Government agencies, which give the industry grounds for hope that perhaps some of the hampering restrictions of the past may be removed and

the industry may again function smoothly at its maximum strength.

It is possible now to appraise our prospects for the first six months of 1944 realistically. For seven years we have had better than average growing weather. This past year began with a cold, wet spring and many were discouraged. But as the summer progressed crops ripened under very favorable conditions. The harvest set an overall record. Thanks to the fact that the food manufacturing industry processes and preserves America's huge food supply, therefore the country consumes the 1943 crop far into 1944, so that we can at this time foresee what our food supply is apt to be in the early part of next year.

In general we will have enough to eat. This means that we can supply a wholesome, nutritious diet to every man, woman and child in America and, at the same time, meet our requirements for the armed forces and lend-lease. An enormous part of the credit for this great achievement belongs to the farmers of this country. They have patriotically and unselfishly worked from dawn till long after dark to produce the greatest crops in American history, in spite of manpower shortages and the lack of equipment.

It is possible now to be fairly positive about some of the items which have been on the short list. For the next three months there will be a somewhat larger supply of meat than we enjoyed the early part of 1943. Beyond that it is probable that the meat shortage will be more severe than it has been at any time up until the present.

Milk will continue to be scarce, but unless there are unforeseen difficulties enough will be available for distribution to maintain a safe standard for health. The same applies to fruits, jams and jellies. There will be enough sugar for civilian use.

In any realistic outlook for the future three primary elements must be kept in mind. Food supplies, demand and prices. As I have pointed out, we may have to go without some of the foods we are fondest of—but a careful housewife will nonetheless be able to give her family an adequate, well balanced diet. It should be borne in mind that food demand is not static. The national income has more than doubled since the outbreak of war. This means that there has been a tremendous increase in the demand for food because the first thing that the housewife does with increased income is to feed her family better than before. It seems probable that regardless of our military and lend-lease commitments the demand for food will continue to increase at least until the end of the war.

Looking ahead from the manufacturer's point of view we see many things we need more of and many things we need far less of. Among the most critical things we need more of are manpower, machinery and equipment and supplies. This industry has demonstrated that it can perform miracles of production even in the face of unreasonable restrictions, but we could perform a far greater service to the Nation if we were given the essential tools of manpower and equipment to work with. The things that the industry

will need less of are not as easy to define, but they are nonetheless real. First of all we need less regimentation, less interference and fewer contradictory and conflicting regulations.

The Price Control Act from which the authority of OPA stems, expires in June of 1944. Its adherents are maneuvering now to perpetuate it. All those who have made a serious study of the present food situation should give careful consideration to their attitude toward continuing the present Price Control Act. Now is the time to decide.

In the light of the experiences I have just outlined to you, it seems evident that we should admit that the present Price Control Act is a faulty, inadequate law. It was drawn up without the advice of the hard-headed practical men of industry and it has been administered largely and until recently by men who knew little, if anything, about business.

For the production of the future food supply of the Nation, it is imperative that the best minds in the food industry be called into consultation and that a new, sound, reasonable and realistic Price Control Act be substituted for the existing make-shift law.

In the six months of 1944 we have a breathing space in which to work. It will not be easy, but America will get enough food. We have an opportunity, without rancor and bitterness to review the record of food control and to draft constructive legislation for the job that lies ahead.

The first and most fundamental concept which should be embodied

in the new Price Control Law is that the three basic elements—labor, raw materials, and selling prices—be brought into proper balance if we are to succeed in controlling prices. This phase of our economy is like a three-legged stool. If one leg is lengthened out of proportion to the others the whole thing is thrown out of balance and will tip over. In our future planning, the mechanics and details can be worked out if we are honest enough, realistic enough and fearless enough to approach the whole problem, instead of trying to attack bits and pieces of the problem separately.

For example, the food manufacturing industry is opposed to the administration's demand for consumer subsidies. This is another example of approaching only one part of the problem without attempting to do anything about the whole problem.

The pressure for inflation which exists today is very much like a swiftly rising stream. In order to prevent a disastrous flood a dam is necessary, but no engineer would think of building a dam of three different heights. The dam must be equally strong and high clear across the span. The dam must be strong enough to not only hold food prices but also the wages paid to labor and the other elements which cause the pressure.

The administration has proposed that the cost of living be held down by the payment of a flat rollback subsidy to processors or producers. There would be more persuasive argument for limited subsidies of this kind, if the administration could show that it had tied in wages

that the only alternative to such subsidies was in fact a general wage increase. But unfortunately nothing in the administration's policies warrants such a claim.

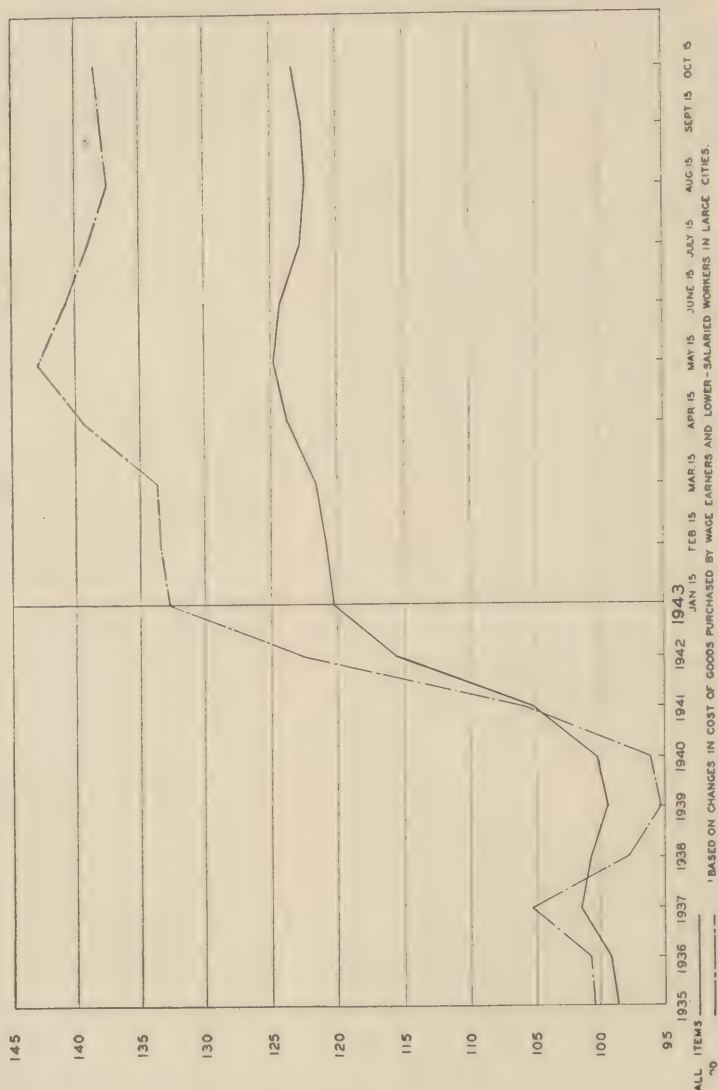
Between August, 1939, and August of 1943, according to the Government's own statistics, the cost of living has increased 25 per cent, while average hourly earnings in manufacturing industries have increased 51 per cent and average weekly earnings have increased 76 per cent. The War Labor Board has repeatedly broken its own Little Steel Formula; but even if it had not, the formula itself is so elastic and full of loopholes in its method of application as to allow all sorts of inflationary wage increases.

Probably no single group in the country has as much at stake in the battle against inflation as the food industry. At the outbreak of this war, the men who head up the major food producing companies of America were acutely aware of the problems which lay ahead. These men knew that war would mean a rapid shift from an economy of surpluses to an economy of shortages. They also knew that shortages would mean rising prices which in turn would lead to inflation unless sound practical measures were adopted to check the tide. Long before America entered the war the food manufacturing industry called upon the Government to establish fair and workable price controls. At the same time the industry advocated the rationing of scarce items so that everyone would get his fair share.

The top executives in the food and industry clearly remembered the

INDEXES OF COST OF LIVING' IN LARGE CITIES, 1935 TO OCTOBER 1943

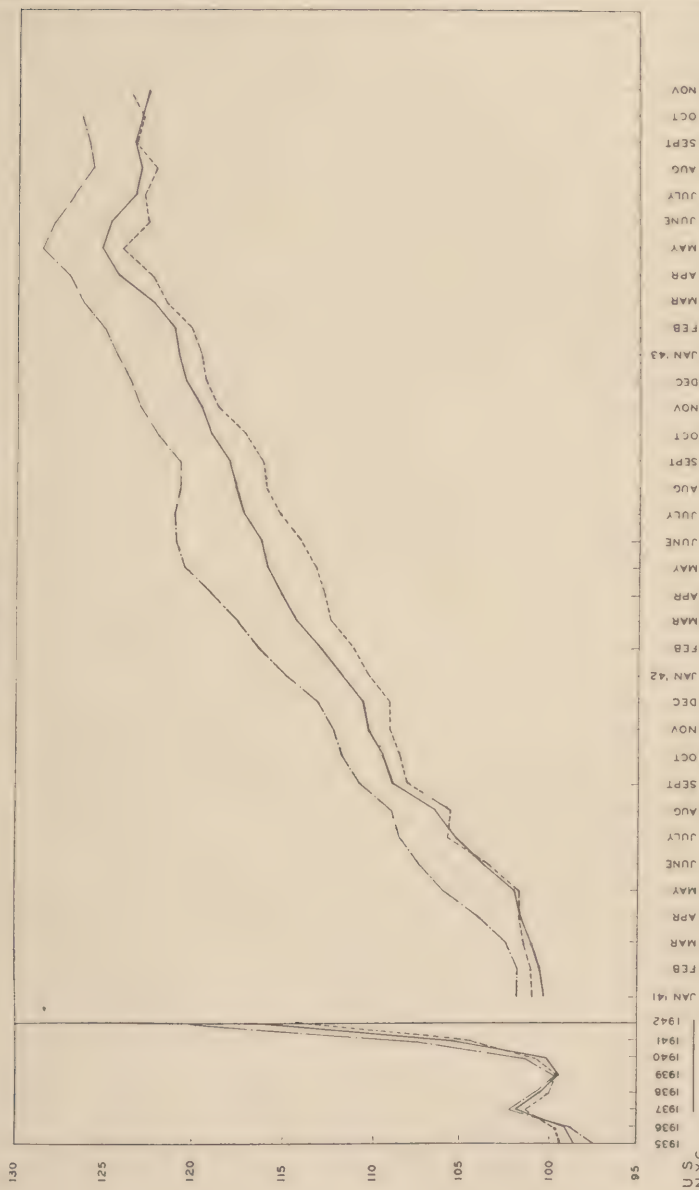
INDEXES' (1935-39 = 100) OF COST OF --



record of price behavior in the last war, and they were determined that we should not be caught in the same trap in this war. When the bottom fell out from under the food market following the last war—the industry suffered an inventory loss of 11 billion dollars. That is

economic disaster on a grand scale. It is important to keep this record in mind because some misinformed people today would have you believe the food industry is trying to bring about higher prices in order to make higher profits. Nothing could be farther from

TREND IN COST-OF-LIVING INDEX AVERAGE 1935-39 100



FIGURES FURNISHED BY U. S. BUREAU OF LABOR STATISTICS

the truth. A recent survey of the 50 leading food companies in America shows that while their volume has increased 75 per cent since September 1939—their average net profits have gone down from 4½ cents on the dollar to 3 cents. This is a sound, healthy condition. It would be ridiculous to call it profiteering. No—the food industry like everyone else in this country, fears and dreads inflation—and we are as determined to prevent it as is the Government or any organized other group.

Unfortunately, our present price control machinery is not adequate. In many ways it is impractical and therefore ineffective. Ill-considered rules and regulations were hastily drawn up, after the elements which cause inflation had already started to get out of balance and out of control.

Subsidies will not bring these elements back into balance. A far more thorough and effective method must be found, for price control will be with us for a long time. And we should now correct those things we know are wrong and put this important legislation on a sound, enduring basis. To try to prevent inflation by the use of subsidies is like trying to plug the leaks in a boat. As soon as you stop up one hole—water will pour in at another place. Subsidies are a temporary expedient not a real cure. Now is the time to face the whole problem fully and frankly and bring all of the elements into balance.

There are several organized consumer groups in this country who are now vigorously promoting the A, B, C grade labeling of canned

and packaged food products. The food industry's best interests are closely identified with those of the consumer. If grade labeling were in fact the simple panacea for all of our labeling problems, which its proponents claim, the industry would adopt it at once. It is the wholehearted, sincere desire of the food manufacturing industry to put on its labels all of the accurate information consumers need or want in order to make an intelligent selection.

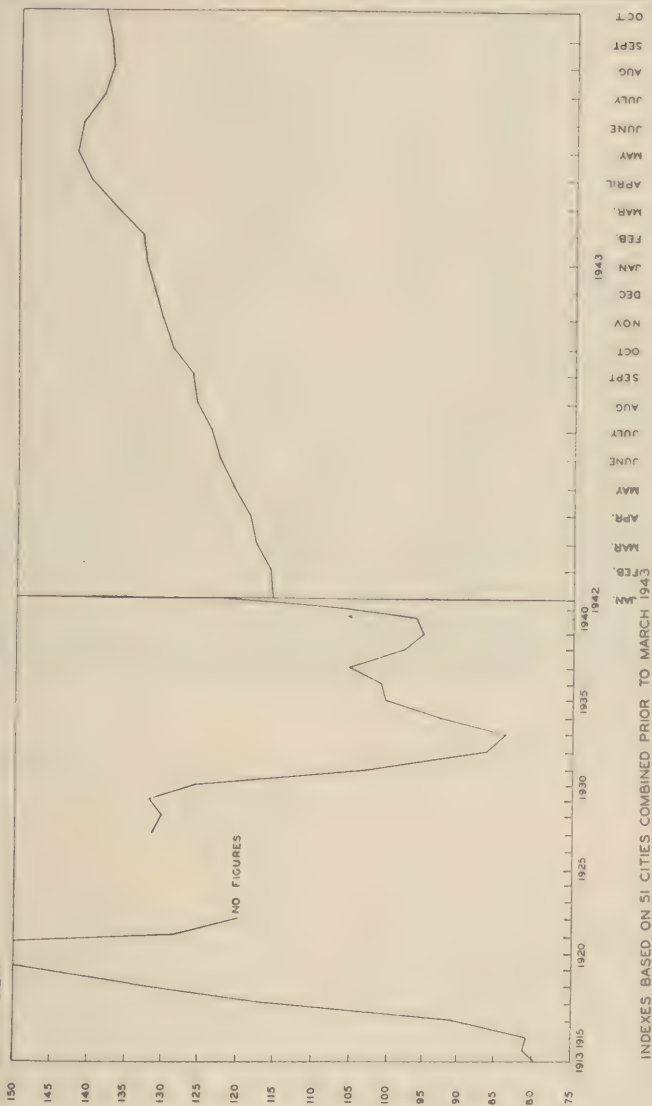
But there is one great flaw in A, B, C grade labeling. It is not accurate—it is in fact misleading and, therefore, is not in the public interest. From the industry's point of view, it is a sad fact that you can clearly advance the reasons for grade labeling in three minutes time. But in order to fully understand why grade labeling is inaccurate and wrong for all concerned, you must have a thorough understanding of food processing and marketing and also its effect upon freedom of choice, and our American way of life.

It is unnecessary to tell you gentlemen that we are about to enter an election year. Food has become a political subject and unfortunately with some people it has become a political football. Recently we have heard reckless statements predicting that the prices of some basic foods would be doubled or even tripled within six months or a year unless Congress granted the administration's demand for subsidies. Such statements are false and extremely dangerous. They lead directly to stampede buying and hoarding. America has enough food to meet

INDEXES OF RETAIL FOOD COSTS 56 IN LARGE CITIES COMBINED, 1913 TO OCTOBER 1943

1935 - 39 = 100

ALL FOODS INDEX



INDEXES BASED ON 51 CITIES COMBINED PRIOR TO MARCH 1943

its needs if handled in an orderly way. We have had a record harvest and the food supply situation looks far better at the beginning of 1944 than it did six months previously. Further evidence that there is no cause for alarm can be seen in the

fact that the armed services recently released millions of cans of food for consumer use. In the face of these facts, to predict runaway prices is to destroy confidence and invite hoarding—one of the primary causes of inflation.



1944 Milk Prospects and Problems

By Fred H. Sexauer

President, Dairymen's League Association, Inc.

THERE is too much talk of average conditions in discussions of food, and too little discussion of specific problems, and that particularly is true, so far as milk is concerned; and it is also true so far as the agricultural areas of the Northeast are concerned.

May I illustrate: The average income of farmers in the United States has increased 100 per cent since 1938; but the average income of New York State farmers has only increased 58 per cent.

The average income from live-

stock has increased somewhat more than 100 per cent, but the average income from dairying has only increased about 65 per cent. That takes in both additional prices and additional production.

Thus you see when you begin to apply specifics to this problem, they take on an entirely different complexion than when you discussed the problem as a whole.

Food is recognized as being very necessary to the war effort, but milk is recognized as being one of the most necessary of products in the war effort. The fact, however,

is that milk has had the least attention, the production of milk has had the least attention of all commodities, and milk production of the Northeast has had the least attention of all milk production problems. That is primarily because we are close to consumers, and consumers heretofore have reacted against increased prices, and consequently, with that public sentiment against increased prices, there has been more pressure to keep prices down here, and that has resulted in the most difficult problems we face.

Incidentally, many of the people in the Department of Agriculture who advocated, and successfully advocated, policies which discouraged milk production, have not left the Department of Agriculture, and are tied generally with labor organizations.

I hope they do a better job for labor.

The United States today is food and nutrition conscious, probably more so than at any other time in its history. That is what the war has done to us. It is a result of rationing and shortages of various foods. How many housewives knew, before Pearl Harbor, just how much butter, how many cans of fruit juices and vegetables, or how many pounds of meat they were feeding their families? But ask any housewife or mother today and she can give you a very accurate answer.

Because of the great educational work that has been done in nutrition, when we think of adequate diets today, we are more likely to start with milk and the various products made from milk. Because

of this work, it is more universally recognized that it is essential for our children to have all the milk they can drink. It is more universally recognized that it is essential that we have enough milk and dairy products for our armed forces, and, if we are to do our best for the war effort, it is essential that there be enough milk and milk products for adults on the home front, who are exerting more and more energy to bring about the early completion of the war.

The importance of maintaining the supply of milk, however, does not seem to have been recognized in government circles because of the smoke screen of inflation controversy with which this problem has been continuously confused. Under the present program of inflation control, milk production has been allowed to decrease dangerously without the stimulus of higher prices, which would be the normal result of the present demand for milk.

Milk Supplies in 1943

Before considering the prospects for milk in 1944, let us look first at what has been happening to our milk supply. For the United States as a whole, milk production for the first 10 months of 1943 was approximately the same as for the first 10 months of 1942, in which year we had the highest production of milk ever attained in this country. This production fell off during the latter part of the year so that the full year's production probably fell below that of last year.

Consumption of fluid milk and cream in the United States during the first ten months of 1943 has been about 10 per cent larger than consumption of milk and cream in the same period of 1942. For the year as a whole, fluid consumption is probably averaged about 15 per cent above 1942. With the greatly increased fluid consumption and the lower production of milk, there has been less milk available for the manufacture of butter, cheese, condensed and evaporated milk and for powdered milk.

In addition to this, the Government has purchased and stored large quantities of dairy products for our armed forces and for lend-lease shipments to our allies. This has left available for civilians such a small proportion of the dairy products manufactured that even with rationing these supplies have been consumed immediately upon their arrival at markets, and no reserve stocks have been built up for civilians. Now that milk supplies are in the period of low production, practically all of the milk produced is required to supply fluid markets. Hence the manufacture of dairy products has been cut dangerously. Since no reserve stocks have been built up for civilians, ration values for butter, cheese and evaporated milk have been increased, and limits have been placed on the sale of fluid milk and cream.

Conditions in this area are becoming particularly serious. While the supply of milk for the country as a whole has approximately equaled to date the supply of 1943, the supply of milk available for the New York market during the

first 11 months of 1943 decreased approximately 7 per cent. The demand for fluid milk in the market increased 5 per cent.

For the month of November, 1943, the volume of milk in the New York pool was 15 per cent below the receipts for the same month in 1942. This decrease of 15 per cent in pool receipts is a reflection of a three-way combination of fewer plants in the pool, fewer pool producers, and a smaller average daily delivery from the remaining pool producers. In November, 1943, there were 16 fewer plants shipping milk to New York than in November 1942. There were 3,500 fewer producers delivering milk to the New York pool and there was a decrease of 21 pounds per dairy in the average daily deliveries of milk. Of the 3,500 producers delivering to plants shipping milk to New York, 1,200 of the decrease was accounted for by the withdrawal of the 16 plants, leaving 2,300 fewer producers delivering to plants shipping to New York.

In Buffalo, New York, there was a slight increase of 1.8 per cent in the supply of milk for that market in the first 10 months of 1943, but an increase in the demand for fluid milk and cream of 15 per cent. In Rochester, the supply increased 4 per cent, while consumption increased 16 per cent. The spread between the increase in the demand and the increase in the supply has been even larger in smaller markets within the State. Under the State orders in Buffalo and Rochester, milk prices have been nearer the cost of production than either under the New York order or in

other markets in the State. The result has been a more adequate supply of milk.

Increased Incomes

There have been a number of factors responsible for the unprecedented demand for milk. The first of these is the tremendous increase in incomes brought about by the higher business activity resulting from the war. The United States Department of Commerce reports that income payments to individuals in the first 10 months of 1943 were 18 per cent greater than they were in 1942. A great deal of these higher incomes are being spent for food. During the year 1943, per capita consumption of all foods was about 5 per cent above the 1935-39 level, even with rationing. With more money to spend for food, more money is being spent for milk.

Rationing

With the rationing of meat and other food, more and more people have turned to milk to maintain the nutritional standards of their family diets. The estimated consumption of fluid milk in the United States in 1943 is 43 billion pounds. This is an increase in the average per capita consumption of milk of more than 7 per cent.

Prices

The increased consumption has not been due to the shortage of other foods alone, however. Price has been a factor. Milk prices have remained relatively stable, while prices for other foods have mounted, so that milk, which has always

been one of the cheapest foods, has become an even greater bargain. Nutrition conscious housewives have used milk to a greater extent to balance their costs budgets as well as to keep up their nutrition supply. The price of milk in New York is approximately today what it was two years ago.

Demand for Powdered Milk

The government is asking for more and more powdered milk with which to supply our armed forces and our allies. Powdered milk production in 1943 was almost double that of 1942. Combined military and lend-lease requirements are expected to account for about 14 per cent of the total milk supply.

Supply Factors

The decrease in the supply of milk, particularly that in this area, has been caused by a number of factors. Many of these can be traced to the low prices received for milk. Others can be ascribed to Government controls over prices and supplies. All of these have worked together to decrease the supply of milk.

Cow Numbers

There was little or no change in the number of dairy cattle in New York State from January 1, 1942 to January 1, 1943, while the number of dairy cattle in the United States as a whole increased 4 per cent. Had the price of milk been sufficient and had other factors been recognized during 1942, herds would not have been sold or culled so closely.

With the same number of dairy cattle in this section to produce milk, we have not been able to produce as much milk because of a shortage of dairy feeds, and because of the poor quality of feed available; because of the increased cost of farm labor and the lack of such labor; because of the increase in other production costs; because of the lack of machinery parts and gasoline; and because of the restrictions imposed by government.

Feed Situation

This area has in the past been dependent upon other sections of the country for a large part of its dairy and poultry feeds. Because of the ceiling placed on the price of corn, it has been more profitable for farmers in the Midwest to feed their corn to hogs and to sell the hogs, than to sell corn to dairy and poultry farmers as feed for their cows and poultry. This has brought about an enormous expansion in the number of hogs raised in the United States, and while we began the year 1943 with a record amount of feed on hand, the larger number of livestock and the heavier feeding rates have resulted in a national shortage of feed. This shortage has been felt in the East for many months now, particularly so, because such corn as is available has been held in the Midwest for the hogs and because the late spring and summer drought in this area caused a poor crop of the grains that are normally grown in this section.

Being unable to secure corn to feed to their cows, dairymen have had to resort to feeding substitute

feeds such as wheat, oats and barley. Since there have been, previous to last week, no ceiling prices on these grains, the cost of dairy ration has advanced materially. This, however, is probably preferable to having ceiling placed on them and not being able to get the grain at all.

The feed available has not been as high in protein and fat content and other nutrients as it would have been had there been corn and corn products in the ration. This has meant, however, heavier feeding at higher cost to obtain the needed production. In cases where feed costs and other costs have become prohibitive, farmers have sold their herds and turned to defense work.

Incidentally, under this policy we have had a 65 per cent increase in the number of hogs, a 35 per cent increase in the number of pigs, about 10 per cent increase in the number of cattle in the United States, and this last year a slight decrease in the number of dairy cattle in this country. You can easily visualize what that means to local market supplies.

Farm Labor Situation

Another handicap under which the dairyman has worked in the past year or two has been the lack of hired help on the farm, the increased cost of this labor and the inefficiency of the help he has been able to obtain. The cost of labor accounts for approximately one-third of the cost of producing milk. Wage costs in New York State have advanced 21.5 per cent in the last year and are now double what they

were before war started. Coupled with the higher cost has been the inexperience and inefficiency of the help that has remained. Thousands of young men were taken from the farms for the Army at the beginning of the war, and the attraction of higher wages and shorter hours in war industries has drained off thousands of others. Farmers have had to resort to using both older and inexperienced men on their farms, and drafting their wives and children to do the work formerly done by hired men.

In order to hold the men that were available, it has been necessary to increase farm wages to compete with much higher industrial wages. It was only last week that I had a letter from a member of our Association asking what would be the cost of producing milk at current feed prices if he had to pay 80 cents per hour for labor.

A local war industry was offering 80 cents per hour for inexperienced laborers and farmers in the territory were having to compete with this wage to secure farm labor.

On the basis of a 10-hour day for farmers and farm hands, this amounted to \$8 per day or \$240 per month. When we figure the cost of producing milk at this wage rate, or at anything near this wage rate, it was much higher than the farmer could afford to pay and continue to produce milk at the prices now being received for milk.

Draft boards are taking boys from 18 to 22 on the farm, and if the draft boards should continue under present policies to pull on those boys on the farm, we will have just further reductions in

milk supplies. Somewhere we must make up our minds whether we want to eat or not.

All Production Costs Up

In addition to feed prices and farm wages, all other production costs have risen. These include current operating expenses, expenditures on buildings and machinery and taxes.

Other handicaps preventing maximum production by farmers include the lack of machinery and machine parts, insufficient gasoline for the operation of farm machinery and for trips back and forth to town, restrictions on production and marketing imposed by government, questionnaires and red tape.

Milk Moved to Other Markets

The supply of milk in the New York Market has also been affected by the higher ceiling prices for milk in nearby markets. Over a period of years, a supply of milk has been built up in this milkshed with a surplus over the fluid supply to protect consumers in the New York market. Now due to the disparity between prices, much of this milk that would normally be shipped into this market is being shipped to Boston, Philadelphia and Washington, and to urban markets in Connecticut. In addition to the milk of the 16 plants that have been withdrawn from the pool within the last year to ship their milk elsewhere, approximately 16 per cent of the milk delivered to the New York pool was shipped to outside markets in November.

Prospects for 1944

United States. In looking at the prospects for 1944, we must consider the national supply since both our fluid supply and our supply of dairy products is affected by the national supply.

The United States Department of Agriculture has estimated that if fluid sales of milk for 1944 were not restricted, there would be a demand for more than 45 billion pounds of fluid milk and cream for 1944, and that the milk equivalent of all dairy products needed will exceed 120 billion pounds. This is two billion pounds more than the estimated 1943 production. However, since there will not be a sufficient supply of milk with which to meet this demand and the demands of our armed forces and lend-lease, fluid milk sales are expected to be limited to 40.5 billion pounds, and there will be a reduction in the production of all manufactured dairy products except powder. This is based on a goal of 122 billion pounds of milk for 1944.

The suggested production can be obtained only if the number of cows is increased by 2 per cent above the average for the year 1943, and production per cow is increased 50 pounds above the 1943 level.

The number of cows and heifers now on farms makes the increase in cow population possible, if no greater culling of cows and heifers than is normal takes place. However, to obtain an increase in production per cow, as well as an increase in cow population, a larger feed supply than was available in 1943 will be required. In

view of the prospective tight feed situation, and the competition from the large number of livestock on farms for this feed, the desired production will be difficult to obtain without providing more feed for dairy farmers and taking actions which will increase returns to producers.

If production falls short of this goal, as it seems likely it will, or if requirements for dairy products for our armed forces have been underestimated, then we shall have to resort to further limitation of fluid milk and cream sales, and perhaps to rationing of fluid milk. It is reported that a plan for the rationing of milk has been worked out in Washington, but that officials are reluctant to put rationing of milk into effect except as a last resort.

In the New York area supply conditions will be serious. A long period of insufficient returns has brought about a decline in milk production which, unless halted, will endanger both our local and national supply of milk and milk products.

It is estimated that the number of cows in the New York milk shed in 1944 will be approximately the same as there were last year. There will be fewer dairy farms, but the average number of cows in herds which remain will be larger.

The number of dairymen going out of business, based on Dairymen's League records, is about twice what it was during the period 1935-40. Unless there is a substantial increase in the price of milk, it is not expected that this will change. The inability to obtain

experienced and reliable farm labor, the high average age of present farm operators and alternative jobs available to dairy farmers at considerably higher wages are the principal contributing factors. While the best cows from discontinued herds will be sold into other herds, lack of barn space and lack of feed will result in culling low producing cows. This will be offset by the large number of heifer calves coming into production for the first time.

The average production per cow in New York herds on December 1 of this year was approximately $4\frac{1}{4}$ per cent below production on December 1 of last year. The number of cows dry in herds was 8 per cent above a year ago. This is believed to indicate that more dairy farmers are changing to spring and summer production when milk can be produced with cows getting a large part of their feed from pastures.

In order to obtain maximum milk production in 1944, it will be necessary that we have not only enough feed, but also that this feed have sufficient nutritive value. All dairy-men are in agreement that the present dairy ration, containing about 15 per cent protein, does not produce the milk formerly obtained from 20 per cent dairy ration. This cannot be replaced with roughage, much of which is of poor quality this year. The real danger in the feed situation is not so much in the national shortage, as in the concentration of that shortage in feed-deficit areas. New York is a feed-deficit area.

The profitability of feeding hogs has been reduced somewhat by the

recent increase in the price of corn, but this increase was not sufficient to attract much corn into feed-deficit areas. With the restricted ability of dairymen to bid feed concentrates away from other regions and other uses because of price control, the result will probably be that high feeding levels will be continued in the Midwest and there will be a shortage of feed in the East. Dairy rations in this section will probably continue to have low protein and fat contents.

Grain fed to cows in New York on December 1 was slightly below last year, though still much above the 1931-40 average.

There is no indication that it will be above the 1942-43 level, which would be necessary to obtain a higher production per cow.

With farm wages still less than 75 per cent of industrial wages, which is approximately the historical relationship between the two, the trend of farm wages is still upward.

The Director of Economic Stabilization, Fred M. Vinson, issued an order last week allowing increases to farm workers earning less than \$2,400 a year without formal approval of stabilization authorities. This may enable dairy farmers to keep some workers who would have left otherwise, but it also advances his cost of production.

With the close of the war, it is expected that many workers on farms who have stayed due to draft deferment will leave for higher paying industrial jobs, making the present shortage more acute.

Incidentally, very few farmers get that much. That was our experience after the last war: our worst

labor problems came after the war. On our farm where we normally have four men, last year he has been running it with a 14 year old son, a 17 year old son, and a 19 year old son part of the time, and when he didn't have the 19 year old son he had a girl from New York City. However, you can imagine the kind of problems he faced. Incidentally, he gave notice he will leave next year. He may change his mind—we will try to change it for him, because otherwise we would have to go out of production.

Milk Production in New York State to be Lower

For these reasons, we have estimated that milk production in New York State will be lower in 1944 than it was in 1943. We believe that by April 1, 1944 production may be down as much as 8 per cent if drastic steps are not taken to prevent it. This will have a far-reaching effect on the national situation. New York State ranks third in the United States in milk production, having produced approximately seven billion pounds of milk in 1942. In addition to supplying fluid milk and cream for three of the largest cities in the United States and many smaller industrial centers within the State, it ranks nineteenth in the production of all dairy products. It ranks second in the production of powdered milk, sweetened condensed and ice cream, fifth in the production of cheese and nineteenth in the production of butter. If milk production in New York State is cut to slightly above fluid demands, the Nation's war effort as a whole will suffer.

Action Needed

It has become a recognized fact that milk production in 1944 will be far short of demands. A recent release by an official of the Department of Agriculture stated "Reflecting feed shortages and less favorable financial returns, milk production in 1944 will result in a deficit of 8 billion pounds next year." To salvage as much production as possible, decisive action by the Government will be necessary. Half-way measures will not suffice.

There can be little doubt that unless higher returns are allowed dairy farmers with which to meet increasing costs, they will turn to more attractive alternatives, either better paying farm crops or higher paying industrial employment. For this reason, the administration should foster a program of higher prices for milk.

By higher prices I do not mean subsidies. Farmers are opposed to subsidy payments. Dairy farmers cannot risk heavy investments in dairies and dairy equipment for the promise of a subsidy payment which can be stopped at any time at the will of the administration. Subsidy payments may ease the cost situation temporarily, but they will not bring the needed production.

To obtain maximum production, the Government should take steps to make more feed available to dairy farmers and to obtain a better distribution of such grains as are available. An insufficient increase in the price of corn and ceiling prices on other feed grains will not accomplish this end. By placing ceilings on feed grains the

Government ties the hands of dairy farmers by making it impossible for them to bid corn and other grains away from the present owners who can use them to better profit than by putting the grain on the market.

Relaxing import duties on grains may increase the supply somewhat, but it is doubtful if much foreign grain can be brought in because of the shortage of shipping space.

The number of hired workers on farms on November 1 was the lowest for the month since the depression years and is 8 per cent less than the 1938-42 average.

To enable farmers to produce as much milk as possible, a plan must be devised to keep farm workers on farms.

This will require exemption from the draft of the younger boys who are growing into draft age. At the present moment draft boards are beginning to press 19 to 20 year old farm boys for induction. This is creating a very serious situation in the dairy section. It means a sufficient return to farmers to enable them to pay high enough wages to hold their hired help. The labor shortage is intensifying the shortage of milk production.

To help ease the farm labor shortage, more, not less, farm machinery and supplies must be made available to dairy farmers. Farm machinery is the only substitute for some of the labor now lost to the farms. The cut in the production of farm machinery and parts in the past two years has added much to the burden of the labor shortage.

Farmers should be assured enough gasoline and fuel oil for

all needs. More gasoline should be made available to hired help on farms, since social life is essential for farm help morale.

I know many cases where farmers have had to drive to town three times, in order to get permission to buy a pair of rubber boots to clean the barn out, and if you don't think that makes them mad, you ought to listen to them for a while, and if that doesn't destroy morale, I don't know what does.

Fewer Regulations and Restrictions

Farmers should be relieved of needless restrictions and regulations imposed upon them by Government within the last few years. These include restrictions on repairs to machinery, restrictions on needed purchases, restrictions on marketing that cause loss of product, and all the other regulations that undermine the efforts and morale of farmers. Farmers are individualists, and as such, have become the greatest food producers per man in the world. To secure maximum milk production, dairy farmers must be relieved of much of the red tape that has been placed on them in the last two years by government.

Sound Food Policy

In general, this country is in need of a sound food price policy—one which puts first needs first. The price relationships between various feeds and live animals and between the various agricultural products are among the most complex in our economy. On many

occasions the controls imposed over prices have created more problems than they have solved. Our program to date has been a collection of ideas of several separate agencies thrown together without relation to each other. We need a known national food policy, developed by governmental agencies working with farm organizations. This program should not be tied to

inflation or labor demands or class conflict.

I might say that our milk prospects for 1944 depend upon whether or not the Federal Government takes steps to form such a program. Unless a sound policy is established fluid milk supplies may be reduced as much as 80 per cent, either by shortages or limitation orders.

Inflation and Nutrition

By Ray F. Harvey

Assistant Professor of Government, New York University

MOST people regard inflation with fear and misgiving. This fear is translated into fairly concrete elements: not enough money to make ends meet, reluctantly accepting substitute materials and foods, having to do without certain things, and hard times. Likewise misgiving is interpreted in potential property loss or loss of savings, and perhaps in hunger or in loss of jobs.

Seldom, however, are the consequences of inflation translated into terms of nutrition. But this aspect of inflation is one of its most immediate as well as long continuing effects. **From the long-term point of view, inflation's assault upon the nutritional diets of people may be its most pronounced effect.** Being less obvious and less well understood, it is not surprising to discover this aspect of inflation receiving little or no attention from the people themselves or even from those who are charged with responsibility for public policy formulation.

Various factors contribute to this "blind spot" in our national and individual thinking.

Price Rises Affect Diet

There is the American tradition concerning food. It is a widely accepted belief that a full stomach is a well-fed stomach; though science has proved there is no necessary relationship between the two. This is one of the most subtle

attacks of inflation on nutrition. When commodity prices rise, the housewife, confronted with feeding the family on an income which has not risen proportionately, is forced to turn to those commodities from which come the greatest bulk of food. That these foods may be less nutritious is not given much thought. In periods of rising commodity prices, the first foods to be omitted from the housewife's grocery list are the "luxury foods" or some of the most "protective foods." Many were included in the diet originally not because of any conscious desire to improve the diet, but, rather, because the budget could stand them, and they were tasty, or probably they served only to relieve the monotony of the diet. Therefore, they can be eliminated now that prices have gone so high without serious consequence to the family health. It is easy to understand this reasoning, though it is difficult to justify.

Another reason for this relatively unhampered shift to a less nutritional diet comes from the relative cost of citrus fruits, green leafy vegetables, and so on, when compared with the bulkier foods—the cost measured in dollars and cents and not in nutritional value. The very items in the diet that contributed to its highest nutritional content are the first to be eliminated.

The consequences of consuming food with low nutritional value are



USDA photo by Forsythe

These protective foods will supply all the protein, minerals and vitamins needed for a balanced diet. But these are the foods whose cost has soared

seldom dramatic. The effects of the inadequate diet appear slowly and in somewhat disguised form. The absence of food in the stomach reveals itself immediately by hunger pains. These pains can be removed just as effectively by filling the stomach with non-nutritious foods as with nutritious foods. The less nutritious diet may be revealed by a lethargy, a slowing down, a loss of weight, a lack of vitality—there are many ways. But seldom are these factors connected with the kinds of food being consumed.

Inflation and Nutrition

The effects of inflation on nutrition are so casual. They creep upon us so unostentatiously. It is difficult at any particular time or with any special group or, for that matter, with any individual to show clearly or convincingly that inflation is anti-nutritional.

Also, in inflationary periods incomes are rising, though not proportionately to commodity prices. This produces a sense of false well-being. It is easy to assume that on the whole everyone is eating about

as well as before. But we know this is not true. There are always many in any society who do not participate in the general upward rise of wages. But there are none who escape the increase in commodity prices.

In war periods, the net effect generally is to reduce real incomes. This results from government fiscal policies—taxes and borrowing—and rising commodity prices. However, there is for political reasons always a rather wide gap between amount of civilian goods available in wartime and the amount of money in the hands of the people. This is so in spite of the higher wartime taxes. In other words, though real income may be reduced, because production for civilian consumption is highly restricted there is more money with which to compete for what there is. Though statistical data reveal this high excess purchasing power, it does not always reveal just what groups possess it. This is important.

White-Collar Class Hurt

It is estimated that at least 20 million white-collar and fixed income employees have had a cut in their standard of living. The government employees, numbering approximately six million, are largely in this category. The school teachers throughout the Nation make up another not inconsiderable group—about one million. The employees in department stores, in small non-war business and in banks, for example, make up another group. Added to these are approximately five million persons in the United States living in fami-

lies receiving one or more of the three special types of public assistance, or general assistance. Also there is an unknown number of needy persons living in communities where there is no provision for maintenance; where no general assistance programs are operating because of lack of funds. Still another group whose incomes have not been increased but, in fact, decreased are those families whose sons, husbands or fathers, upon whom the family was dependent for an income, have been inducted into the Army.

Inflation strikes directly and immediately at all these people. It is a constant struggle—a delaying action—on the part of these members of the community to get quantity irrespective of quality. It is a struggle for survival. They have no choice of foods.

An impressive list of active pressures in the war inflationary period could be given, all of which militate against a satisfactory nutritional diet for the above named groups. The necessary restriction of civilian goods production, at the same time that national income is rising, swiftly forces purchasing power into narrower channels. In peacetime this additional income would be used to purchase houses, automobiles, and so on. Now it goes into the food market, thus increasing the competition for an ever-declining supply of available foods.

Rationing No Assurance of Balanced Diet

Hence rationing and price controls as techniques attempting to insure a fairer distribution of the



USDA photo by Purdy

This breakfast satisfies all nutrition needs. But the 20 million white-collar and fixed-income employees find it hard to buy such a breakfast with food costs sky-high

available supply. As already demonstrated in this war, rationing cannot insure more food for the low-income families. Neither can rationing insure more nutritional foods. Price fixing, likewise, can retard the general trend upwards. But it cannot prevent rising costs of living. Rationing and price fixing drive foods into the black market. The better foods are the ones that enter this illegal market. Only those with money can pay black market prices.

Since the war worker now has a higher "take home" pay than he had in peacetime, he is buying more food than ever before. Also, working a longer work-week increases the demand for food. And with

a higher percentage of the population doing manual labor, increased quantity of food is demanded.

Since the amount of available food is limited, the effect of these pressures is to intensify the competition for what there is. So-called "protective foods" are now in great demand and their prices rise rapidly. The net effect of the rise in prices, which is the cumulative effect of these pressures, forces the fixed income and salaried people to eat the starchy and protein foods because they are bulkier—they give the appearance of more food and also they are cheaper in price. This forces these groups into something considerably less than a well-rounded diet.

Cost of Most-needed Foods Soars Highest

Milk, fruit, vegetables, eggs and meat are called "protective foods." The need for these foods in the daily diet is well established. Let us take a few examples. The nutrient Thiamin (vitamin B₁) is essential to the maintenance of healthy digestive and nervous systems, for the eyes and skin and for growth generally. This nutrient is found in foods such as pork, whole grain cereals, legumes—peas, beans, green vegetables—asparagus, corn, brussel sprouts, and so on. Or again, the sources of riboflavin, which is necessary for the general health and vitality of the body, are in eggs, liver, milk, beans, spinach, greens such as turnip tops, beet tops, kale and so forth. So it is with most of the nutrients.

Yet these are for the most part the very foods that have increased most in price. They are the foods that inflation makes most difficult to secure for those groups of people outlined above.

It is well to examine some of the consequences nationally to inflation's attack upon nutrition. The absence of a well balanced diet in periods of stress and strain such as war is much more costly than in peacetime. The immediate effects are more expensive. Those groups who cannot keep up with the inflationary spiral by getting increases in income or salaries or wages are having their vitality sapped slowly but surely. They have more colds than usual. Because of the pressure of war they are not free to take a full sick leave, thus the cold is carried to other

office workers. The cold may approach epidemic proportions. Then even those with better diets are subjected to a wave of colds. The result is a loss in war production that may reach significant highs. It is the one day of work that is lost by many in apparently individual cases that total into millions of man-hours of work lost during a year.

Living Standards Vary

It has been shown by numerous surveys that despite wartime demands in the form of taxes and government borrowings, rationing, and non-production of numerous articles, the national standard of living has increased. Some indexes reveal this rise to be as much as 20 per cent. The natural and logical conclusion then may be, and is in many quarters, that we are all better off than before the war. Likewise, it is revealed that in the case of food, many people are eating more than in the pre-war period. For example, restaurants have increased in patronage by some 200 per cent and there has been an increased consumption in the more highly nutritious foods. We may accept these data as being essentially correct. But it is incorrect to assume that these data are applicable to all consumers in the United States.

In the first place, increase in incomes has been spotty throughout the country. In the next place, increases in wages and incomes have not been even throughout the population. In order to maintain this national standard of living it has been necessary to increase the income by approximately 50 per



USDA photo by Forsythe

The dollar doesn't go far in today's shopping. Note 1941 prices. (Oh, for the good old days!)

cent. There are at least 20 million persons in the United States who have had little or no increase. **It has been estimated by Dr. F. A. Harper of Cornell University that "all who have had increases in income of less than 30 per cent presumably have suffered some decline in their level of living."**

Committee Testimony

Testimony before the wartime Health and Education Subcommittee of the Senate Education and Labor Committee reveals the plight of these employees at the beginning of 1944.

The story told to the Commit-

tee by Miss Marga Kortenbental, an employee of the Ottendorfer branch library in New York City, could be repeated by millions throughout the United States. During the past four years her salary has been increased from \$130 to \$160 a month. Due to increased taxes and other deductions, her "take home" pay was only \$3 a month more than in 1940. **"I think anyone will agree," Miss Kortenbental said, "that the cost of living has risen far more than \$3 a month in the last four years. I make my own clothes and I get one good and cheap meal a day at the library."**

Mr. Arthur J. Altmayer, Director of the Social Security Board, testified in behalf of the white collar worker as follows: **"From the early part of 1940 to the middle of 1943, average weekly wages in manufacturing establishments covered by State unemployment compensation laws increased 71 per cent—from \$26 to \$45. Average weekly wages of the combined group we have classified as white-collar increased 21 per cent—from \$24 to \$29."**

The effect of inflation on nutrition is implicit in the statement of Mr. William H. Davis, Chairman of the War Labor Board, before the same committee. After pleading for a continuation of wage stabilization, he remarked significantly that if it failed, **"the low-salaried employees would be farthest behind in the futile race of wage earners to catch up with the cost of living."**

Conclusion

Inflation cuts deeply into the nutrition of the Nation. It makes inroads into the quantity of food consumed by the many who receive no increase in income. Its most pronounced effect, however, is upon

the quality of food consumed. Its results are measured in terms of low vitality, decreased war production, epidemics of diseases, and in the health of the next generation. The effect of inflation on nutrition, also, will be evidenced in the immediate post-war period. Then the longer work-week of the war-time period which accounts for much of the high "take home" pay will be discontinued. Then there will be the necessity of demobilizing the war workers. This will mean that the millions who have been able to keep up with the rise in commodity prices will join with the some 20 million white-collar workers of the war period.

It still remains, however, that the public is unaware generally of the relation of inflation to nutrition. This could be, if properly exploited, another arguing point for preventing or for at least holding down inflation. It is true though that much has to be done in the United States to bring the value of correct nutritional diets to the people. The dollar and cents value of nutrition has yet to be widely accepted. Until that is done for the rank and file person, inflation will not be interpreted as a nutritional hazard.

► The black market is neither a moral nor a legal problem, but an economic problem. An address delivered at a public hearing of our Committee.

Anatomy of the Black Market

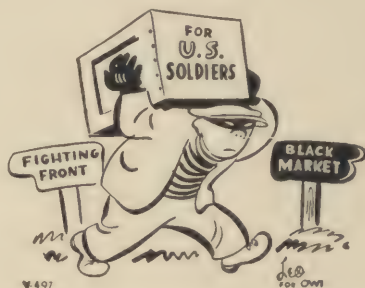
By Maxwell Stewart

Editor, Public Affairs Committee Inc.

MOST of us tend to think of the black market as a legal problem. We are concerned primarily with how to enforce price ceilings and rationing regulations and with punishing those who violate these important wartime restrictions.

This emphasis is in part the result of misguided newspaper and radio emphasis on the gangster element in certain black market operations and the obvious similarity between the black market and the bootlegging of prohibition days.

Now I agree that there must be no place for gangsters in the legitimate operations involved in feeding, clothing, and transporting millions of American citizens, and that the most effective way of dealing with gangsters is by enforcing the law ruthlessly. But most black market operations do not involve gangsters at all; they involve the corner grocery store, the neighborhood butcher, and the gas station down the street where you and I have traded for years. The men who operate these businesses are not criminals in the ordinary sense of the word. Nevertheless, their black market operations constitute a serious threat to the welfare of every one of us. For the selling of goods above ceiling prices or without coupons threatens to under-



mine the purpose and value of the Government's stabilization program. It prevents food and other supplies from being distributed fairly to those who need them most. If not checked, it can do more damage to morale and living standards on the home front than a whole series of military defeats on the battle front. The black market places a premium on dishonesty and disloyalty and imposes an unjustified burden on the patriotic law abiding business man as well as the loyal consumer and his family.

Before we can deal adequately with the black market we must recognize, however, that it is at bottom neither a moral nor a legal problem but an economic one. All countries engaged in the war have black markets, fundamentally, they are a reflection of inflationary pressure. In every war there is a tendency toward inflation, due to

the fact that provision of munitions and war supplies create new purchasing power at a time when there is less to buy.

If no attempt is made to control this inflation, the people who have money buy up all the goods, thus undermining health and morale. To stop this, all of the leading countries have adopted price control and rationing. But some inequities are bound to develop in any price and rationing system. It is impossible for any administrative agency to take account in advance of all the geographic, seasonal, and other differentials which will affect the situation. Even under the wisest of administrations, squeezes are likely to develop which will drive some goods into the black market.

But these squeezes are not primarily responsible for the black market. That lies in the inflationary process itself. Price administrators face an almost hopeless task in trying to enforce rigid price ceilings during a period of increasing purchasing power. When there is too much money in people's pockets a terrific pressure is created which leads to surreptitious and illegal buying and selling at above the fixed prices. In other words, the black market is really an illegal inflation.

The Office of Price Administration has faced an almost impossible problem during the past year in attempting to control prices in the face of increasing costs and increasing buyer power. If it adjusted its price ceilings frequently to meet the rising costs, a creeping inflation would ensue which would ultimate-

ly overwhelm the entire stabilization program. If it did not make such adjustments, more and more producers would be driven to the black market in an effort to meet their increasing costs.

The President's hold-the-line order of last spring represented a conscious choice between these two evils. The choice was undoubtedly a wise one, but it tended to encourage the black market.

Yet, the OPA has done well in recent months in its campaign against the black market. Much has been achieved merely by tightening up administrative procedures. For one thing, the creation of uniform price ceilings which could be printed in the newspapers and posted widely in the stores greatly eased the task of checking price violations. Under the new system, consumers can readily find out whether they are being overcharged, and OPA traveling inspectors can spot violations immediately without having to check the dealer's books and old price lists. For another thing, the imposition of ceilings on the price of live animals on the farm and the requirement that all meat be stamped with the slaughterer's permit number have helped choke off black market supplies at the source.

This is the first test here of the system which European countries have found most effective in curbing the black market—compulsory licensing of producers. At the same time, rationing has brought a better distribution of the supply of meats and canned goods, so that there is less incentive for a black

market in these staples. Moreover, the newly established OPA community price panels have made a striking contribution in many localities.

But I think it should be clear to all of us that measures of this sort will not in themselves uproot the black market as long as people have more money in their pockets than they know what to do with. Since it is an economic problem, we need economic counter-measures. Nothing short of a program broad enough to check inflation will stop the illegal market.

President Roosevelt outlined the kind of program that is needed in his famous Seven Points, contained in a fireside chat in the spring of 1942. The main reason for higher taxes and for buying war bonds is not, as many of us erroneously supposed, because the Government needs money. High taxes are essential as means of absorbing the extra money that the war has put in people's pockets. The buying of war bonds, too, is an important part of the battle against inflation. So is the Government's wage stabilization program, and its efforts to hold down farm prices. For extra money in people's pockets during the wartime is dangerous money.

But without doubt the most effective weapon that has been devised to date for curbing the black market is the subsidy. There are, of course, sound economic reasons why subsidies are more effective in checking illegal transactions than fines or threats of jail sentences. Fines are merely absorbed as one of

the costs of illegal activity. The risk of a prison term is usually small. In contrast, the payment of a subsidy provides producers and middleman with a financial incentive to keep their products in regular marketing channels. It provides a way for correcting inequities and meeting increased cost of production without pushing up living costs and necessitating wages and further cost increases.

By using the subsidy as an incentive, the Government can more readily gain control over the entire process of distribution. Potential black market operators may thus be frozen out because of inability to get supplies. In the long run, however, even the subsidy is a palliative.

As long as the total amount of purchasing power created by the war effort exceeds the amount reabsorbed by purchasers, taxes, and war bond sales, there will be an irresistible pressure against the price structure which will seek an outlet in the black market.

A broad, concerted attack is necessary on all the seven fronts outlined by the President. And on each of these fronts, we must be constantly on our guard against creeping attacks by the enemy. A number of small reverses may, in the long run, be as dangerous as a major defeat. Every citizen must seek every opportunity to help our Government in the never-ending struggle against inflation and its shadowy counterpart—the black market.

► A condensed version of an extemporaneous address delivered at a Dec. 16, 1943 public hearing of our Committee.

Some of Father Knickerbocker's Food Problems

By Mayor Fiorello H. LaGuardia

THE PROBLEM of food supply, distribution and price in wartime cannot be approached along the lines of anything we know or are accustomed to. It must be analyzed from an emergency viewpoint.

I do want to say that people cannot eat statistics. Nor can you give a survey to a nursing baby. We have just about all the statistics we currently need. Taking the country as a whole, we are producing more food than ever before. Crops have been good, and it must be said to the everlasting credit of the American farmer and producers that they have responded magnificently to the call of their Government.

It is sad to have to admit that in peacetime and in a time when we claimed to have had surpluses, there were a very large number of people in our country who did not have sufficient or proper food. They certainly did not have anything like the menu of the American table that we like to talk about when we are talking about a tariff or making a Fourth of July speech. Today, many of these people are eating more than ever before. This is particularly true of meat and articles of food that enter into an American menu.

Therefore, there has been a marked increase in the demand for

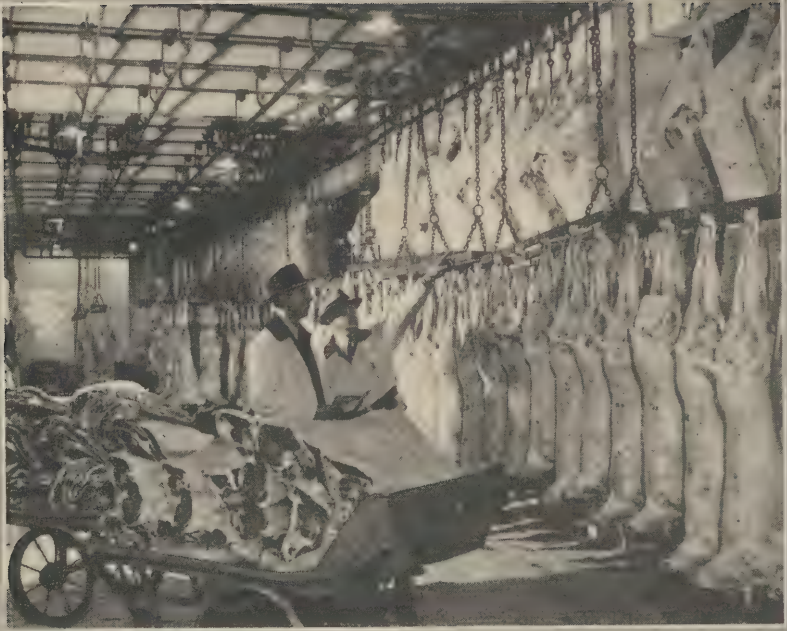
food, in addition to the food that necessarily had to be acquired by the armed forces of our country and for Lend-Lease purposes.

The supply for the armed forces is a great deal more than anyone imagines. The Army and Navy have provided for every possible war emergency and any possible unforeseen military situation. The responsibility of the Command is, of course, to have food for the troops anywhere, at any time, no matter what happens.

The armed forces have reserves at every level, a reserve in the event of crop failure; a reserve in the event transportation fails; a reserve if other emergencies arise; and that accounts for the enormous reserve that is on hand but which could not have been reduced.

Rationing

Knowing that the supply of food would not meet the civilian demand in our country unless it was properly distributed, it became necessary to invoke the ration system. Without rationing, food would go to the most favorable markets, leaving sections of our country without food. In a system without rationing New York City would, of course, get more food. But we would not be happy with that if we knew that other sections were



USDA photo by Knell

Men and meat

not getting enough. Therefore, it was necessary to take certain staple commodities and put them under a ration system. But along with the ration system, you need to have price control; otherwise, some people who can afford to pay any price would get the food, and others would be unable to purchase food. The two go together: A ration system with price control.

Enforcement Problems

Such a system is easy to explain, but is difficult to enforce. It is contrary to everything we have been accustomed to and that makes it all the more difficult. There is still a great deal more to be done on the

part of the OPA; I think also, on the part of Congress.

The one big weakness of the present price control system is that it does not go all the way through; and, therefore, Congress must make a decision, and make it before very long: Either to place price controls from the seed right up to the retail level, from the animal on the hoof right up to the sliced meat on the retail butcher's block, or else to make up the difference somewhere along the line.

The difficulty today, and what has caused the black market, is that in many commodities, the first ceiling price is placed after the

raw product, and up to not so very long ago, after the animal was slaughtered. In case of meat, the large packers claimed loss per animal, but they admit they could absorb this because of the many by-products that they produce. The small independent packer, however, could not absorb such a loss, with the result that he either went out of business, sold his plant, or took a chance in selling to the black market. It is very much the same as the days of Prohibition when irresponsible and disreputable people acquired breweries or distilleries to make malt extracts or medical liquors.

Meat

We had a great deal of trouble in enforcing, in the early days, price and rationing regulations affecting meat. We started with no necessary enforcement legislation, and then later all we had was the State law making violations an infraction, punishable by a fine of \$25, five days in jail, or both.

I personally interviewed several hundred retail butchers—with the understanding that the source would be kept confidential. Believe me, we got a liberal education! I also interviewed all of the big packers and intermediate packers and most of the wholesalers; and **there is no doubt that in the beginning the retail butcher could not get meat at ceiling prices.** The "Big Four" and the next eight big packers did not violate the ceiling prices; but their supply was so small and their quota to their customers was so small, that the retail butcher could not supply his trade

or could not make his overhead on the amount that he could get at ceiling prices.

Before long, a new technique developed. The butcher went into the refrigerator alone with the salesman, and the salesman had pockets in his apron, and the butcher had to pay or he wouldn't get his meat.

The packers cooperated, and several persons lost their jobs, but we could never get anyone or any group to testify in order to prosecute the salesmen.

Not being able to get enough meat on his allotment, according to his past record of sales, the retailer naturally had to go out and buy meat elsewhere. So there developed a technique of evading ceiling prices. It was done in several ways. The meat would be sold at ceiling prices, and at that time shanks, liver, heart, brains, heads and other cuts not under price control, would be sold along with the price controlled meat, in order to bring the total up. That is called the tie-in sale. Another device was simply to put on the bill a larger quantity than was actually delivered, and to make up the difference that way. Others required a check in payment for the legal price, and then took the difference in cash. That condition has improved a great deal now, because of the greater supply of meat and better enforcement.

The OPA has been very helpful; they have promulgated a regulation requiring all meat to be accompanied by a manifest or invoice from the source of origin right to the retail level. The Health Depart-

ment of New York City has enacted a similar ordinance, and so we can now go out and trace some of the meat. This is very helpful.

Upgrading, I fear, still exists. In announcing prices in New York City, I personally do not announce any Prime A choice, because I do not think it exists, and if it does exist, the hotels and restaurants get it. We pay for Prime A but do not get it. The meat we get is simply not of the quality that we are accustomed to in New York City. The feeder trade is simply out, because of the high cost of feed, so we get grazing cattle or cattle directly from the packers.

When a wholesaler has to pay more than his legal sales price, you have the start of your difficulties. When the retailer has to pay more than he is permitted to charge the housewife, he is going to try to recoup. In the early days when we had to enforce ceiling and ration regulations, it was cruel, but we had to enforce them, otherwise conditions would have gone wild in this town.

Onions

Retailers often would pay a fine, and just charge it to overhead, and go back to the same thing over again. They were paying fines, but they kept on selling.

There have been some mistakes made. Take the situation in onions. The price fixed for the producer was too low, so the producers held back. If a little more had been granted to the producer, the consumer would have obtained a better break.

It worked this way: the producer would not sell. The onions

got into the black market and when we got them, we had to pay more than we would have had to pay had it been a proper adjustment all the way through. That condition is improving.

We had a case when the first crop of apples was coming in from the West. The OPA slapped a ceiling price on apples that overlooked freight and commission costs. But that was corrected in 24 or 36 hours; otherwise, we would have had no apples from the West or the prices would have gotten out of control.

Citrus Fruit

Enforcement of citrus fruit prices is much easier. The source of supply is in fewer hands, and it is all sold in the open in New York City—about 95 per cent of the citrus fruit is sold by the open auction system. And while there is no bidding, it is sold in the open so that the price is known. It can't be hidden from the producer to the receiver or wholesaler in the city. When some took a chance and violated the ceiling price, the United States Attorney stepped in beautifully, and the Federal courts proved very helpful.

Here is where the consumer is stuck on citrus fruit. The price of oranges is by the box. If they are large oranges, of course, the consumers get less; if the oranges are small, the consumer gets more. But they are bought by the box, and the box by weight. When it comes to the retailer, he sells them by the dozen. So my wife comes home very happy and she says, "See, I have oranges for the children at ceiling prices." But we can't mea-

sure the circumference of every orange. In all likelihood, she has paid more.

We are going to sell citrus fruit by the pound and that will absolutely protect the consumer, and it is fair to the retailer and the wholesaler, because they buy it in that way; and that amendment ought to be announced very soon.

Potatoes

Regarding fresh fruits, the Government very often has to go out and support the market. We had that in potatoes, spinach, snap beans. And the consumer gets no benefit. You will remember that when we reached about the end of the last crops of potatoes and awaiting the new crops from the South and the North, there was almost a famine of potatoes. We had all sorts of bootlegging; they were selling bootleg potatoes. We stepped on that very vigorously. Then, lo and behold! All of a sudden the supply of new potatoes came along. The farmers, having been encouraged to plant more acreage in potatoes, did so, and the crop was very abundant and the market broke.

The Department of Agriculture went out and supported the market by buying potatoes.

But you can't store new potatoes; they have no skin, and you have to dispose of them. **I don't know how many carloads went to waste.** I could get all the potatoes I wanted for nothing, for institutions, provided we did not reduce the normal purchase of potatoes. But we could take so many and no more. Now, I believe that where it is necessary for the Department of Agriculture to go out and support a market,

in order that the farmer may get enough to pay for producing those potatoes, that protects him. But the consumers should get the benefit to the full amount of the money spent to support that market.

Under the existing system, the food is withdrawn from consumption, and it is wicked and sinful at this time to withdraw any food for consumption.

Subsidy Urged

One of two alternatives will happen. Either (1) our whole price control system is going to break, (2) the Government will have to fix prices at the very origin, or (3) the Government will have to provide a subsidy. The producer cannot continue to grow food or raise cattle at a loss. Therefore, if the cost of production is such that the price level of retail prices cannot be maintained, the Government must make up the difference. The farmers are opposing that, and I think it is because of misinformation or misapprehension as to what it might do.

Surely, the farmers are not new to subsidies. I first went to Congress back in 1916. And we had subsidies almost every year in one way or another. We had it in corn, wheat, cotton and tobacco; I have lived through all of that. So it can't be new to them. But here is a subsidy that will reflect and maintain that parity which agriculture should have; it gives some benefit to the consumer. If prices continue the way they are, then nothing is going to happen. It cannot stop—inflation will come in, and when inflation goes along and

it is beyond control, you can readily see what will happen then. I am very much concerned about it.

Take two commodities that are very easily understood: Bread and milk.

At the present time milk—and this is of great interest to our State—milk is being subsidized about two cents a quart. The consumer can't take any more on the retail price of milk; he just can't. Flour is about one-fourth of a cent to a loaf of bread; that quarter of a cent passes right on until it may become a cent or two cents by the time it gets to the consumer.

Here in New York City I venture to say we have better enforcement of ceiling prices than any large city in the country. In some places you will find ads in the newspapers of groceries, meats, produce, just flagrantly and brazenly way over ceiling prices. We try to hold it down here.

We have had about 6,000, last week, convictions or pleas of guilty under the provisions of your State law. We have had 14 or 15 thousand cases. We do not take a retailer into a Magistrates' Court the first time. We bring him in, explain the law, make an investigation; we find out whether it was an intentional act or whether it was done in ignorance, or whether it was the pressure of having paid too much. That information is given to the Department of Markets. They take the enforcement of the law under the provisions of your State law at the retail level.

Several cases developed from the disregard of the law on the part of wholesalers through tie-in sales or through overcharging; these we

referred to the Sheriff's Office, and they went after the wholesale buyers. This is the first time in a great many years that the Sheriff's Office has been invoked in the enforcement of a quasi-judicial statute. And the Federal Government, we refer the cases where we have real wholesale cases or where the violation involves large quantities or large amounts. There is complete and fine co-operation between the District Attorney's Office of the Eastern District of New York and the Southern District of New York.

Please do not get the idea that I make any claim there are no violations of ceiling prices in New York. There are. And it keeps us busy. But all the resources that we have in personnel and agencies of Government to hold it down are being utilized; and, too, you will find in regions where there is no enforcement, particularly if there are war industries, food will go there because of the possibility of increased prices.

This coming spring, we will have some bad periods. Conditions will not improve. The present favorable condition of meat as to amount will not be as good in the spring. We are past a very bad period in milk, and now we keep on going until we hit the next short season when we will go lower than we did this time, and then when we come back, we will not come back as high as we do this year.

Whatever the outlook for 1944 and 1945 as to food, it is not going to improve (and that is true even if the war should end, that is, hostilities should end), because of the

enormous need of food all over the world.

We may expect the necessity of continuing the rationing and price control even after we stop firing—maybe for a year or a year and a half, because of the demand for food.

Paragraph 6 of section VII of the New York State War Emergency Act, has been a life-saver. This paragraph authorizes the State War Council to enact or to pass a resolution making a violation of any Federal regulation or rule an infraction, and provides a penalty but as we go along, the technique of avoiding Federal regulations and rules and prices improves all the time, and therefore we must have improved machinery to meet it. And I strongly recommend that a statute be written making a violation of a price regulation directly a misdemeanor rather than an infraction.

Let me give you an instance. Take the case of the small dealer. You have the case where you go in with that one sale, and he may get a \$25 fine, and if it is repeated, he will get a \$25 fine again.

That is the maximum—the maximum is five days in jail. We have had wholesalers that were brought in who had perhaps 150 instances of 150 separate violations. Now, just look at all of the time it takes to try each one of these cases separately; while if you made it a misdemeanor you could proceed on one case, and then the Court in meting out punishment could take into consideration the entire atmosphere and conduct of the defendant.

And so I press very strongly that

it be made a State misdemeanor to violate any of these laws.

Food Conservation

Then I would ask for power to be lodged either in the State War Board or delegate it from it to enforce the necessary regulations for the conservation of food. Now we must depend entirely on the voluntary cooperation, and the decent reputable hotel or restaurant or consumer will do it.

There is only a very small percentage that would disregard an appeal, but it spoils everything. The minute a few will do it, it makes it so unfair to those who want to comply. And therefore, the machinery must be provided where in any given commodity conservation is necessary and in order to do so we must curtail its use either by not selling on certain days or not to be consumed on certain days; we ought to have the authority to do it, and that would be very helpful. I think that with those two changes we can hold our own for the next year, at least.

I would say no one would dare to venture just what the food situation will be, with any degree of accuracy, in 1945, but it will not be any better as to quantity in 1944, and the present situation will not continue. The supply is bound to go down, and you will have more rationing, I think, under better regulation and better enforcement.

Had it not been for the amendment to your State Emergency Law passed by the Legislature this last session, we would have been in a very bad situation here in New York City, particularly during the first six months of price control.

The Meat Situation in the City of New York

By Joseph Cohn

Counsel, Meat Trade Institute, Inc. and New York Council of Wholesale Meat Dealers, Inc.

THE UNWARRANTED meat famine which has steadily prevailed in New York City, under meat price control and rationing, has during the past several months been substantially relieved. But this is temporary. The comparatively plentiful supply of pork and low grade and quality beef, veal, lamb and mutton, now at hand results from the (a) suspension of slaughtering quotas, current heavy marketing of hogs, (b) liquidation of herds which would ordinarily be sent to feed lots, (c) lack of freezer facilities to store meat for future use and (d) increased shipments to the New York City area of meat which cannot be marketed elsewhere.

There is little in this situation of promise to home consumers in New York City that they will henceforth regularly receive their just share of the meat available for civilian consumption.

On the contrary, price and rationing policies of the OPA and WFA are radically changed to take into full account the complex meat supply and distribution systems peculiar to the New York City metropolitan area, which has a population of twelve million but no nearby livestock producing centers or adequate slaughtering facilities of its own, New York City will, in the not very distant future,

again face a meat famine of even more serious proportions than prevailed there during most of the year 1943. Moreover, the expected meat shortage will recur in New York City, notwithstanding the fact that meat may continue to be plentiful elsewhere.

1944 Meat Production to Rise

The national production of meat during the year 1944 is expected to be even higher than it was in the year 1943 and sufficient to meet all war and civilian requirements. Therefore, the 1944 meat shortage in New York City will not be due to a shortage of livestock, curtailment of the available meat supply, increased purchases of meat by War Procurement Agencies, or increased consumer demand for meat in high wage defense industry areas, as the Office of Price Administration and War Food Administration will undoubtedly again try to explain. It will be due solely and exclusively to OPA and WFA price and rationing policies, which have regularly and consistently operated to completely destroy the normal channels of wholesale distribution of meat in the New York City metropolitan area, and especially, the channels of wholesale distribution of meat for resale to home consumers.

The outstanding feature of all

These little piggies
don't go to New York
city markets

Because they don't,
regulations of OPA
and WFA are blamed

meat price, restriction, distribution and rationing regulations and orders issued to-date, as affecting the wholesale distribution of meat in New York City, has been the persistent refusal of the OPA and the WFA to recognize the essential nature of the function of wholesale distribution of meat, and their unyielding assumption that, with or without wholesalers in New York City or elsewhere, meat produced for civilian consumption will somehow distribute itself equitably throughout the Nation and that every person in the United States,

including New York City, will or should somehow be able to buy his or her full ration limit of meat at ceiling prices.

Non-slaughterers Hit

In line with this theory, the Office of Price Administration to this day seeks to maintain ceiling prices at the various levels of wholesale distribution of meat without providing price margins sufficient to cover essential operations of wholesale distribution, and to bring about an equitable distribution of

meat, without implementing slaughtering restrictions and consumer rationing by provisions which would assure a regular and orderly flow of meat available for civilian consumption through normal channels of wholesale distribution. This is an obvious fallacy in reasoning and has been utterly refuted to-date.

This policy of half measures found its foremost expression in the provisions of Meat Restriction Order No. 1 (subsequently superseded by Food Distribution Order 75), which placed complete control of the civilian meat supply in the hands of slaughterers. No obligation was placed on the slaughterers to share any part of the meat supply with non-slaughtering processors and wholesalers whom they have normally supplied, and upon whom the civilian population, especially in New York City, has normally depended for a major part of its supply of meat and meat products. The original provisions of Revised Maximum Price Regulations 169 and 239, in addition to denying to wholesalers a price margin sufficient to cover necessary distribution operations, singled out wholesalers as a class and prohibited slaughterers to sell to wholesalers and wholesalers to purchase from slaughterers any quantity of beef, veal, lamb or mutton, regardless how small, except at a minimum discount from uniform ceiling prices of 50¢ per cwt.

The foregoing provisions, which caused all slaughterers to refuse to sell any meat to wholesalers and to divert their entire civilian meat supply to the hotel and restaurant

trade to whom meat in wholesale quantities was permitted to be sold without the required discount, made it impossible for wholesalers in New York City to supply any meat to retailers for resale to home consumers. It compelled over 100 wholesalers in New York City to completely suspend operations and brought about the protracted meat famine in New York City, which for many months made it impossible to fill ration points in the hands of home consumers.

Other repercussions of the foregoing provisions have been (a) a complete shifting of the wholesale distribution of meats in New York City into the hands of irresponsible persons not previously engaged in the wholesale meat trade and industry; (b) an avalanche of circumvention and evasion, which has flooded the Nation and which no measure of enforcement has thus far been able to cope with, and (c) a black market in meats which, for many months, seriously threatened to completely wreck the entire meat price and rationing programs and to this day seriously impairs the effectiveness of said programs not only in New York City but also in many other areas.

The only changes effected by the Office of Price Administration to remedy the disastrous results of the above mentioned provisions, have been a belated revocation of the wholesalers' discount provision and the substitution therefor of an operating margin for wholesalers of 75¢ per cwt. which amount is wholly insufficient to cover necessary operations of wholesale distribution, and an amendment to

Ration Order 16, which declares it to be "the policy of said Order" that no slaughterer shall discriminate against any independent processor, wholesaler or other distributor customarily supplied by such slaughterer, but is so worded as to have no force of law.

Needless to say the foregoing changes of provision have wholly failed to alleviate the dislocation of distribution of meat in New York City. The continued failure of the Office of Price Administration to enable legitimate wholesalers in New York City to obtain sufficient meat for sale to retailers dependent on them for their supply and to carry on operations without a loss, which they are unable to absorb, has served only to steadily aggravate the chaos which has prevailed in the meat situation in New York City since the early days of meat price control and despite rationing.

This steadily aggravating chaos will continue unabated in New York City and bring recurrent meat shortages there, despite the fact that the "price squeeze" on packers, resulting from the former lack of relationship between fixed ceiling prices of dressed meat and uncontrolled and continuously rising prices of livestock, has at last been substantially relieved by the establishment, in October, 1943, of ceiling prices on live hogs, and the Directive of the Office of Economic Stabilization, effective December, 1943, which made subsidy payment on cattle conditional upon the purchase of same within certain fixed price ranges and granted additional subsidy payments to non-

processing slaughterers of cattle, who were especially adversely affected by the said "price squeeze."

The only measures which will assure to New York City an equitable distribution of rationed meat at ceiling prices and put an end to the black market in meats which continues there, despite vigorous enforcement not only by the OPA but also by the Sheriff and the Department of Markets of the City of New York, are provisions based upon recognition of fact that (a) the distribution facilities of the slaughter houses and slaughterers' branch houses in the New York City metropolitan area have normally been and still are wholly inadequate to effect a sufficient or equitable distribution of meat in that area; that (b) close to 60% of the meat required by New York City was normally brought into the city and distributed there by hundreds of non-slaughtering processors and wholesalers; that (c) equitable distribution of rationed meat in New York City without said processors and wholesalers is wholly impossible; that (d) a breakdown of meat price control and rationing in New York City is not purely a local problem, but will seriously impair the effectiveness of said programs throughout the Nation, and that, (e) in order to assure to home consumers in New York City their just share of the meat available for civilian consumption and to make meat price control and rationing truly effective there, it is essential that the wholesale distribution of meat in New York City be restored to the

legitimate wholesale trade and that non-slaughtering processors and wholesalers in that area be assured an adequate supply of meat to satisfy their trade and a price margin sufficient to cover necessary operations of wholesale distribution.

To give due recognition to these facts and to eliminate effectively the continuously expanding black market in meats and prevent a recurrent meat famine in New York City during the year 1944, it is essential that the present meat distribution, rationing and price programs be forthwith implemented by the adoption of the following measures:

1. Amendment of Food Distribution Order 75 and Ration Order 16 by provisions requiring every slaughterer to sell monthly to every non-slaughtering meat processor, wholesaler or retailer, who purchased meat from him during the year 1941, the same percentage of his current total monthly civilian supply of each kind of meat, as the percentage of his total sales

of such meat which he sold to such non-slaughterer during the corresponding month of 1941; and

2. Amendment of all wholesale meat price regulations by provisions:

(a) **Eliminating all mandatory discounts**, including the reduced discount of 25c per cwt. on carload sales of beef, veal, lamb, mutton and variety meats, and enabling wholesalers to purchase needed quantities of meat at full ceiling prices and without any disadvantage in relation to other buyers;

(b) **Establishing for wholesalers a price margin sufficient to cover essential operations of wholesale distribution**, which under present conditions must be at least \$2.00 per cwt.; and

(c) **Limiting the volume of all meats (other than sausage)**, which may be sold by any wholesaler or other intermediate distributor to purchasers other than War Procurement Agencies, to the volume of such meat sold by him to such purchasers during the corresponding period of 1941.

School Lunches

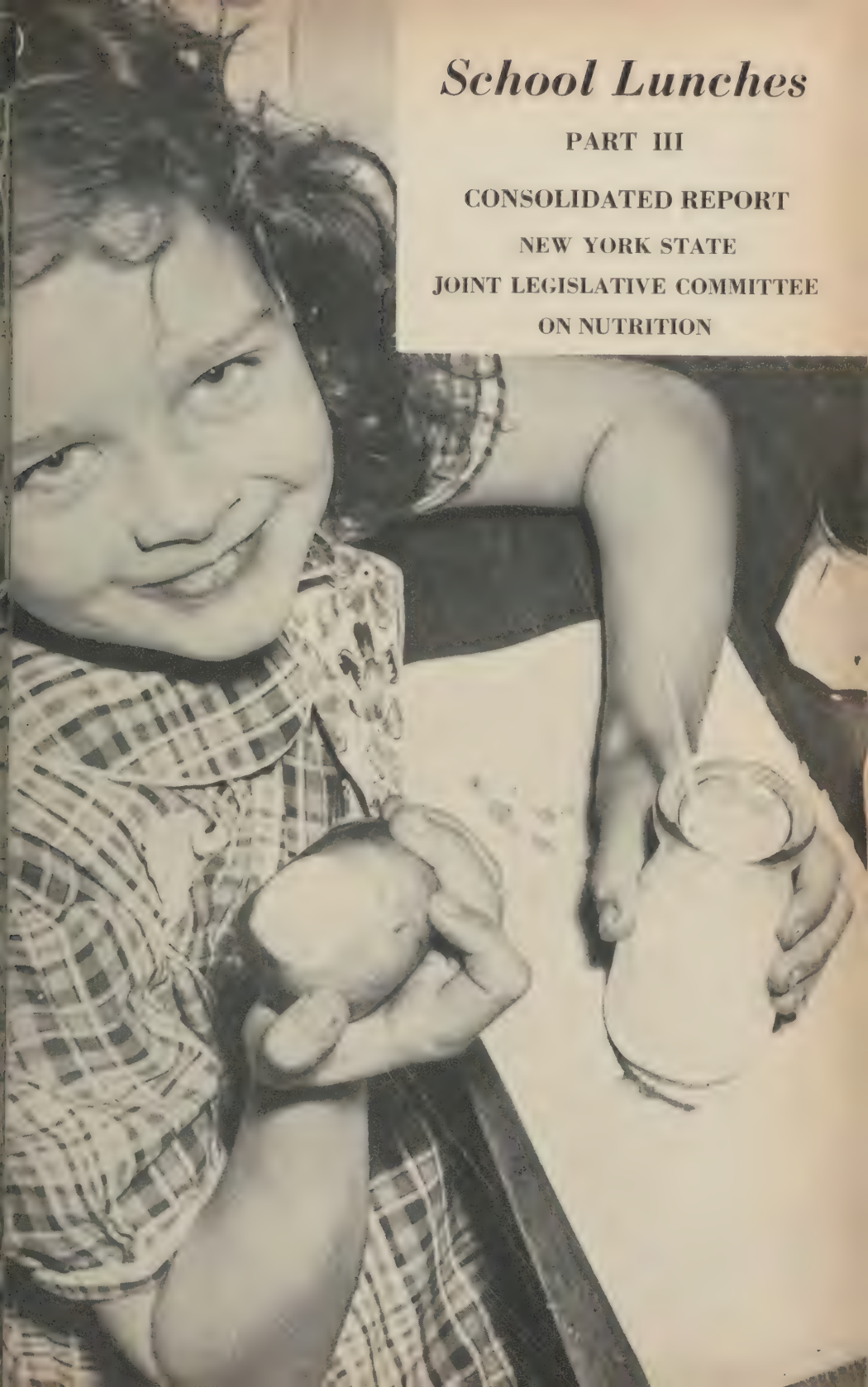
PART III

CONSOLIDATED REPORT

NEW YORK STATE

JOINT LEGISLATIVE COMMITTEE

ON NUTRITION





On school lunch menus soup is important

Johnny Needs His Lunch

By Thomas C. Desmond

Chairman, New York State Joint Legislative Committee on Nutrition

JOHNNY HARTNETT was an eight-year old, a "dead-end kid" from a tough neighborhood. At school he was a troublemaker, nasty-tempered, an accomplished hooky player and a frequent flunker. Teachers called him a problem child. His principal investigated one day, and found that Johnny's problem was food. His mother was working in a war plant, his father was overseas.

Johnny had been living on a basic diet of beans, bread and coffee. The principal prescribed a hot noon meal daily at school, free. The change was amazing. Johnny's lean frame added weight. His attendance was better. His disposi-

tion improved, and his marks spiraled from D's to B's.

Every school has its Johnnies who need a hearty meal as much as they need their A, B, C's. Nine million of our school children are malnourished, according to United States Surgeon General Thomas Parran.

And yet what has been done? The entire school lunch program was threatened with collapse when WPA which furnished personnel to help prepare and serve 2,500,000 school meals a day, was abolished. Delays and bickering in Congress which hesitated to provide money for the school lunch program further added to the menace confront-

ing the school lunches of our children.

Some communities exercised good old "Yankee ingenuity" to keep school cafeterias open. Women organized shows to pay for cooking utensils. Families provided food from their Victory Gardens. Teachers took money from their own salaries to keep the program alive.

But while these stop-gap volunteer activities have been helpful in assuring continuation of the program in some communities, there can be no permanent lunch program until Congress and the President issue a firm expression of national opportunity to secure a hot, balanced lunch at school. Toward the fulfillment of this goal, a five-point program must be instituted:

1. The Federal Government should contribute substantial sums of money to help support the school lunches.

2. Each state should contribute

a share of the funds and supervise the administration of the lunch program.

3. The states should repeal legislation which bans school boards from subsidizing cafeterias.

4. Local communities should pay part of the cost of the lunch program, not by begging contributions from individuals and civic groups, but by regular annual appropriations from boards of education.

5. Schools should be granted by the OPA priorities in the purchase of food, and the FDA should assist in securing special allotments of non-rationed food for the school children.

It will not be easy to secure adoption of these proposals. Time and effort will be required. But we shall be repaid in knowing we are putting bones and brain and stamina into the pitifully neglected generation we expect someday to remake the world.



USDA photo by Knell

"God is great and God is good and we thank Him for this food . . ."

The School Lunch Program from a National Point of View ✓

Edna P. Amidon

Chief, Home Economics Education Service, U. S. Office of Education

THE SCHOOL lunch is widely recognized as one important means of achieving better nutrition and health for children. Many organizations and Government agencies have worked with school officials and teachers to assist them in endeavoring to make a lunch available to every school child, with the result that the number of schools providing meals for children has grown steadily from

year to year and schools and communities increasingly are recognizing the school lunch as an integral part of the total educational program.

Development of the Program

Until recently the general conception of the place of the school lunch was that of a feeding unit set up *in* the school but not *of* the

school. Many of the present problems in connection with promoting, organizing, and carrying on school lunch programs have grown out of the fact that the school lunch in the past was commonly thought of as an activity merely incidental in the school day and not (with a few notable exceptions) as a part of the total educational program of the school.

At the beginning of the depression, many schools discontinued the sale of school lunches because a great many children had no money to spend for lunch at school. As time went on, many families had little money to spend on food, and frequently not only lacked money for their children to buy lunches at school but had no food at home to pack in the lunch box. School administrators, teachers, and welfare workers became alarmed at the number of children who came to school hungry. As they began to define their responsibilities to school children in terms of existing conditions they came to believe "*that an adequate noonday meal should be available to every school child.*"¹

This belief led many schools to initiate various types of feeding programs. In some instances complete meals were served. In others "soup kitchens" served soup, crackers or bread, and milk. Still others served hot cereal and milk to children who came to school without breakfast. Some feeding programs were only for underprivileged children. Others were for all pupils. Many organizations

and agencies helped the schools in the promotion and operation of such programs. Among the work done by organizations that of the National Congress of Parents and Teachers was outstanding. The Extension Service of the U. S. Department of Agriculture, the American Red Cross, and many church and civic groups, also, made important contributions at this stage of the development.

In many communities curriculum revision in schools paralleled the school-feeding activities. Modern educational philosophy, with emphasis on problems of everyday living, brought educators face to face with the fact that health and nutrition of children were foremost among the problems with which the schools should be concerned.

As principals and teachers, by means of aid supplied by cooperating organizations and agencies, directed feeding programs in schools and as more people accepted the function of education in accordance with the more modern interpretation there was widespread adoption of the belief "*that the school lunch should be made an educational experience for the pupil.*"¹

For most schools it was impossible to develop lunch programs which were a manifestation of this belief. Neither local, State, nor Federal funds were available to schools for space, equipment, labor, or food; or for the training and supervision of school lunch managers and workers. Few helps were available to teachers on the devel-

¹ The quoted phrases in italics are from "The Community School Lunch in the School Program" in *Education for Victory*, March 15, 1943.



"Come and get it!" Lunch time in a school in a low-income section of an industrial city

opment of nutrition and health instruction as a part of the school lunch program.

The need for assistance was so apparent that some agencies recognized lunch programs in schools as projects worthy of benefiting by their services. The Work Projects Administration contributed in many states by supplying thousands of workers which enabled hundreds of schools to initiate or expand their school lunch programs. It gave, in addition, some training and supervision to the workers employed. The National

Youth Administration, also, contributed workers and carried on a training program for work experience in lunchrooms. The Surplus Marketing Administration (and its successors, the Agricultural Marketing Administration and the Food Distribution Administration) recognized that schools were without resources for purchasing foods and that furnishing lunches for school children was as good a use as could be found for farm surpluses. Labor and food could not be used, however, without space and equipment. Parent-teacher as-

sociations, home demonstration clubs, and many civic and church groups assisted schools through supplying funds for the construction or remodeling of buildings and for the purchase of necessary equipment for school lunches. School people at national, State, and local levels as a part of their contribution to the National Nutrition Program have emphasized the educational opportunities of the school lunch. They have provided assistance in correlating school-feeding with classroom instruction through conferences and educational materials.

Apparently, in many places the needs of the school lunch program were being met to varying degrees by contributions from the sources mentioned above. A large number of schools, without doubt, would have been forced to discontinue their lunch programs had such aid not been extended. It has become increasingly difficult, however, to maintain active, unified cooperation among agencies and organizations whose primary functions differed widely from the primary functions of the schools.

The success of a school lunch program depends in large measure on unity of purpose and coordination of effort toward the achievement of its health and educational objectives. In attempting to secure unity and coordination, persons interested in the development of a sound school lunch program therefore came to believe *“that school officials and teachers are primarily responsible for initiating, promoting, operating, and administering school lunch programs.”*

In many schools there are pupils who do not have the money to pay for lunches. Others receive lunches without cost to them. Gardens for school lunches are often used to keep these costs down. Some bring contributions in kind and others buy their lunches at cost. When children receiving free lunches are segregated and identified as underprivileged there is doubt whether the benefits to physical health offset possible injuries to mental and emotional health. As a result of observations of many different plans and devices for meeting such problems, persons closely connected with school lunch programs believe that *“school lunches should be provided without cost to pupils who cannot pay and that no pupil should be segregated or identified to other pupils because of his failure to pay.”*

The school lunch program, as has been stated, is the concern not only of parents and schools but also of the Nation. The U. S. Office of Education increasingly has assumed responsibility for assisting school administrators in their efforts to determine the direction which developments in the program should take in order to make and keep it educationally sound. In keeping with this responsibility, the U. S. Commissioner of Education called a meeting on June 12, 1941, of representatives from national organizations and Government agencies interested in school-feeding programs, one result of which was the organization of The Cooperating Committee on School Lunches. The purpose of this committee is “to find ways and means

of organizing and maintaining the school lunch program so that it will yield greater results educationally to all children and all schools." It has been active in promoting understanding and cooperation among the various agencies. At the present time the following are represented on the committee: American Red Cross, Federal Security Agency, Federal Works Agency, Office of Civilian Defense, Office of Price Administration, U. S. Department of Agriculture, U. S. Department of Labor, National Congress of Parents and Teachers.

The School Lunch Program at Present

A majority of educators, as well as lay people, now accept the school lunch as a necessary part of the total educational program of the school. Studies and observations made in schools, with and without school-feeding programs, show that when children are given an adequate breakfast or mid-morning meal when needed or provided with a satisfactory noon meal there is improvement in their health and in their school work, school attendance almost invariably shows marked improvement when attention is given to the children's food needs. Experience also shows that school lunches are offering excellent opportunities for nutrition education.

The number of schools having lunch programs increased greatly during the five-year period ended in June 1943. Unfortunately—because of wide variety in types of feeding provided—accurate and comprehensive figures are not available to show the extent of



USDA photo by Forsythe

Shall we neglect our children?

school lunch programs in the schools of the Nation—now or for past years. Statistical comparisons, therefore, cannot be made. There is, however, abundant evidence that school lunch programs have increased in all parts of the Nation, both in number and in popularity.

In the fall of 1942 efforts were made by the Office of Education to secure detailed information on the numbers and types of school lunch programs in operation. Local schools and State departments of education lacked the resources for the record keeping necessary to supply the information needed. Figures for 1942 from two states are given here—not as representative of the national situation but of the few states in which extensive programs were underway and in which there was sufficient staff to supply this information. In Louisiana, 2,291 of the 2,678 schools in the state operated lunchrooms, serving daily 230,668 children out

of a total of 462,998 pupils enrolled in the schools. In Virginia, 1,646 of the 3,836 schools in the state operated lunchrooms; and 281,938 children out of a total enrollment of 493,287 pupils were served daily.

The growth of confidence in the value of school lunch programs and increase in the number of schools having some type of lunch are, unfortunately, not matched by provision of adequate public funds for the further development of school lunch programs.

School administrators are appreciative of the aid extended to school lunch programs by many agencies and organizations during the years just past. They are aware, however, that a sound program cannot continue under opportunistic arrangements. Moreover there is constant fear that support may be withdrawn at the end or in the middle of the school year. The insecurity of the present situation prevents the best development of the program in many ways.

There are many communities throughout the Nation in which there is need for local resources to be supplemented by state or by state and Federal financial assistance in order to secure the necessary equipment for preparing and serving lunches, to construct or remodel suitable rooms and buildings, to supervise and train lunchroom workers—all essential elements in a school lunch program.

State Funds for School Lunch Programs

At the present time, no Federal funds to be administered by Federal and state school officials have been appropriated as aid for school lunch programs. A beginning is

being made in some states through legislation authorizing or providing for the use of school funds in school lunch programs. Previous to 1939, four states had passed legislation facilitating the development of school lunch programs through state departments of education. In April, 1943, replies from 40 states, in response to a request for information on this point, indicated that 12 additional states had passed similar legislation. The legislation passed consisted, for the most part, of amendments to old laws or the enactment of new laws to allow the use of local or county school funds for school lunch purposes.

The replies from the 40 states also indicated that state funds in 12 states had been provided for school lunch purposes. Only four of these had secured regular appropriations through legislative action. Funds in the education budget were allocated to the school lunch program in three states. In two states, salaries and travel for supervisors were provided from the Governor's Fund. One state passed a special tax to be used for school lunches, and another state secured approval from the State Budget Commission for allocation of funds for salaries and travel of supervisors. All of the states having the use of state funds include supervision as one of the purposes for which the funds can be used. Five states limit the use of funds to "supervision"; one, to "supervision and equipment"; one, to "supervision, equipment, and labor"; and four to "supervision, labor, equipment, and food."

It is apparent that in many states attempts are being made through the State Department of Education to lay the groundwork for building a good-school-directed lunch program. In many states, school officials consider that a basic first step is the employment of qualified state and district supervisors who can work with local communities in helping them to make the maximum use of their own resources. Through this type of leadership many communities are being helped to get their school lunch programs established on a permanent basis.

In spite of all of their efforts, children are coming to our schools hungry. Because of unemployment or poverty or improvidence many homes fail to provide the amounts and the kinds of foods needed by children. Families in the "fixed income" groups who have medium and low incomes frequently are not able, under conditions of higher living costs, to supply their children with the food they need. The employment of mothers in war industries means that thousands of children leave home with an inadequate breakfast and take a very poor packed lunch or no lunch at all to school. The threat of physical unfitness resulting from malnutrition in these children is a problem of serious consequence to the Nation. Yet only approximately one-third of the Nation's schools are now in a position to help combat this danger.

Future Developments

If the schools of the Nation are to make their maximum contribution toward the improvement of

health and nutrition of children, progress in school lunch programs must be greatly accelerated. This means a rapid expansion in the number of schools providing sound school lunch programs.

The success of an expanded school lunch program will depend in large measure on the extent to which school people (1) strengthen the educational aspects of the school lunch program, and (2) develop effective procedures for supervision and administration.

The problems of a school lunch program in any school are varied and difficult, but there is none that cannot be solved through organized school and community participation. Members of school boards, school administrators, principals, teachers, pupils, parents and district and state supervisors working together can create and maintain a school lunch program which will have a permanent effect on the health of the children. All teachers in the school need to recognize the educational potentialities of the school lunch program, and see their place in working toward the achievement of such objectives as: (1) the establishment of good food habits, (2) the selection of food at school to supplement that consumed at home, (3) an understanding of the importance of preparing, handling, and storing food in a way to protect nutritive values and safeguard it against contamination, (4) well established habits and principles in buying foods, (5) ability to share in the direction and in the work of operating the lunchroom, (6) interest in and ability to plan and grow home and school gardens for school lunches

and to plan and carry out conservation projects for school lunches, and (7) an appreciation of and responsibility for making the lunch at school a pleasant social situation. Where parents understand the educational objectives of the school they will not only be sympathetic toward what the school is trying to accomplish but will help pupils apply at home what they have learned about foods at school.

Considerable study needs to be made on the ways and means which are most effective in capitalizing the educational potentialities of the school lunch: How the entire school staff can share responsibility efficiently, how the school can work most satisfactorily with the home and community, and how each of the many groups in a community can find opportunity for making its unique contribution. Successful experiences which schools and communities are now having need to be recorded in order that the elements of success discovered may be reported to other schools and communities.

Experience to date has shown that an administratively sound organization for a school lunch program which is integrated with the total school program will make pro-

vision for: (1) Representative and active advisory school lunch committees on state, county, and local levels to promote the program and to bring to administrators and managers the viewpoints and suggestions of community groups; (2) school administrators who recognize and accept their responsibilities for making the school lunch a part of the total school program and who help all teachers in the school recognize the opportunity it provides for educational experiences; (3) managers and workers qualified to operate lunchrooms which meet acceptable standards in regard to nutrition, sanitation, selection and arrangement of equipment, and sound financial management; (4) teachers who recognize and accept appropriate responsibilities in the school lunch program as essential to the job of teaching; (5) state and district supervisors who are aware of the educational aims of the program, who have a thorough understanding of the opportunities and limitations in various school situations, and who have the ability and the patience to work towards continuous progress; and (6) both pre-service and in-service training for school administrators, teachers, managers, and workers.

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The School Lunch Program in New York State

By E. R. Van Kleeck

Assistant State Commissioner of Education



USDA photo by Forsythe

A nourishing school lunch each day helps keep the doctor away

CLOSEST to our hearts are our children. Their welfare depends to a large degree on their physical well-being—on their health. One of the major factors in their health status is nutrition.

By diverting to the stimulation of the school lunch program every possible share of the time of the Home Economics Education Bureau's staff that can be spared from their regular work, we are

trying to get a hot lunch or at least a hot dish or at the very least a half pint of milk per pupil served in as many as possible of the State's 6,000 school districts, of which about 3,500 are, despite centralization, still one-teacher rural schools.

In recent years some of the schools have had Federal assistance in carrying on their lunch program. Until last spring this help came largely in two forms, first, "free" labor under the WPA, and second,

surplus commodities. The labor supplied by WPA, although undoubtedly often rather inefficient, nevertheless filled a big need in such tasks as peeling potatoes, cooking, serving, washing dishes and cleaning up. The surplus commodities, although attended by many unusual, not to say peculiar, developments, were often nevertheless a godsend to the schools. It is true that it is said that sometimes a community with so many apples that they were rotting on the ground was sent apples, but on the other hand many children who otherwise never saw an orange or any other citrus fruit got some vitamins which they would otherwise have lacked.

With America's increasing responsibilities under lend-lease for shipping food abroad to our Allies, with the food needs of the 10 million men in our own armed forces, and with other factors which I shall not attempt to enumerate, surplus commodities are now "gone with the wind." At the same time, the WPA is a thing of the past.

Such was the situation that we faced last winter when the Legislature took a big step ahead by amending section 310 of the Education Law, so that in effect the expenditure by boards of education of local tax-raised money for the support of school cafeterias and lunches was legalized. Some of the school districts, I believe, were already including in the budgets approved by their voters sums to make up cafeteria deficits but they were on thin legal ice and the State Education Department felt that it had to discourage such of these expenditures as came to its atten-

tion. Also the Department which has to interpret the law as it is written rather than as we think it ought to be, could not, prior to the passage of the 1943 law to which I have just referred, allow such expenditures in figuring state aid for central school districts.

During the 1943 session of the State Legislature and thereafter, the Federal Congress was also struggling with related problems. About the tenth of last July, the appropriation bill for the Federal Department of Agriculture was signed, assigning 50 million dollars for school lunches to the Department's Food Distribution Administration. Commissioner Stoddard of our Department had appointed a school lunch committee from the staff some months previously and as chairman of this committee, the writer was sent to Washington to see how this 50 million dollars could be used in our program.

The terms of the Federal appropriation bill omitted the former emphasis on the support of farm prices and on the absorption of surplus crop production. It stressed instead the improvement of the health of the children of the Nation through improved nutrition. It abandoned completely the distribution of foodstuffs and substituted a program of financial reimbursement. In the light of this the handling of this program in the schools by the Department of Agriculture might be thought peculiar—but that Department had the 50 million dollars and the Congress had just recessed! Since most state departments of education are under-staffed and thus ill-equipped

to promote so large a program, and since few of the state legislatures were in session in July and many have only biennial sessions, the state and Federal education officials attempted to persuade the FDA to assign a tiny fraction of the 50 million dollars to the state education departments for supervision. However we could not budge them.

As 50 million dollars is only a couple of dollars per school child and obviously would not last very long at the rate of 45 cents per week (nine cents per day toward the so-called "A" type meal), and since, as in all such situations, the best organized and least needy schools tend to get the money first, especially when there is little or no state-wide supervision, we tried to set up some criteria for "priorities" in the distribution of the fund among schools within each state. This proved impractical, however, since some of the standards were mutually contradictory and in any event it is scarcely possible to refuse money to a huge city, for example, with the expectation that more needy and less prosperous rural areas will ask for it a couple of months later. Among the states, the FDA agreed that the 50 million would be distributed largely on a population basis. I emphasize "largely" because on that basis New York, with a tenth of the Nation's population, would get about five million dollars, whereas we were informed that our allotment would be four million. We worked out a gentlemen's agreement with the State FDA, which organization proved extremely cooperative, whereby so far as pos-



USDA photo by Forsythe

School lunch in New York City

sible New York's four million dollars would be divided roughly fifty-fifty between New York City and the rest of the State.

We in Albany had estimated last winter that we needed a minimum of five or six supervisors if we were really to push the school lunch program in the 6,000 school districts in this state. With no Federal funds for making efficient the use of New York's four million dollars, Deputy Commissioner Wilson of the Education Department turned to the State War Council and in September obtained through it a small sum for the employment of two professionals, plus one stenographer and travel.

After detailed and harmonious cooperation with the State FDA, we worked out a "design-for-living", which was put into writing in the form of a memorandum-of-understanding executed between the State FDA school lunch admin-

istrator and the State Education Department. Under this, the State Education Department accepted complete responsibility for the supervision of the program in the public schools of the State. Because of constitutional and statutory limitations and for other reasons, the supervision of the school lunch program in private and parochial schools and in welfare organizations such as settlement houses was assigned to the FDA itself. The agreement provided that no contract between the FDA and a local school should be valid without the State Education Department's approval. The reason for this is obvious: the Department cannot accept responsibility for the program if its decisions are to be over-ruled by a Federal group that has no direct responsibility for schools or education. It was also provided that where the local sponsor of the lunch program was other than the official school authorities, the Education Department would not approve the contract unless it had the written approval of the local school authorities. The purpose of this was to prevent an over-enthusiastic local group from "going over the head" of the local board of education, which, after all, has statutory responsibility for and control over what goes on in its schools. We drew up this and similar sections with the thought in mind that clear, advance understandings on such matters tend to avoid a great many future headaches, and it has worked out that way. We have not found it necessary to turn down a single application so far, and the program is operating in approximately 650

schools outside of New York City, serving approximately 108,000 children, besides those in New York City. I except New York City since the program there includes public and private and parochial schools and welfare organizations and is not solely under the jurisdiction of the city board of education.

The memorandum of understanding with the FDA has attracted considerable attention from certain other states and from the Council of State Governments and from the U. S. Office of Education.

A total of 650 schools sounds like a large number until one realizes that there are roughly 10 times that number of school districts in the State. A total of 108,000 children seems a substantial number until one sees that this is only about a tenth of the public school children outside New York City. The detailed administration of the school lunch program by the Education Department was, under our memorandum of understanding, assigned to our Bureau of Home Economics Education. Perhaps therefore I as one not a member of that Bureau may be permitted to evaluate it and to say that in my opinion quite remarkable progress has been made by the Bureau, considering the late date of the Federal appropriation, the subsequent delay and the small staff which we have. At the same time, there is no use blinking at the facts: **The surface of the problem has only been scratched.** Of course, as I previously indicated, besides the federally-assisted program, many of the other schools have school cafeterias or lunch programs or hot dish programs or serve milk. The total of

these may be three or four times the federally-aided number. The picture shifts rapidly.

Now what are the next moves? You have in mind that we do not have the WPA labor or the surplus commodities. On the other hand, the legislation making it possible for boards of education to use local funds has been passed. Also, Federal funds have been made available. We still do not have anywhere near the necessary personnel to promote school lunches, to supervise them, to aid in menu planning and the like. Moreover, the boards of education are feeling the financial pinch more all the time. Although Commissioner

Stoddard in a circular letter and also in his message to the annual school district meetings last May advertised this new law, boards of education do not appear to have done much about it in their current budgets. This is understandable, because attendance has fallen so greatly in the schools of the State that State aid is now down some eight millions of dollars, while at the same time the cost of practically every type of goods and services used by the schools has gone up and Federal taxation has made tax resistance on the local level considerably greater. If we are to expand lunch programs, the schools, especially in poorer communities,



Apples, soup and other foodstuffs for school lunches on a three-way conveyor in a central kitchen, leading to a loading platform. A fleet of 717 trucks carries this food to 717 New York City schools

must have more state aid. I say "especially in the poorer communities" because it is the poorer, not the richer, communities which need the greater State aid, and that is the basis upon which we have been operating in this State since 1925, in distributing State aid for schools.

The FDA reimbursement is generous in my judgment, the red tape has been amazingly simplified, the contract between the FDA and the local sponsor is a brief and uncomplicated document, and the monthly FDA report is so simple that among Federal forms it is practically unique! Schools that cannot swing the so-called "complete" lunch and get the nine cents per meal may get six cents a meal for a less nearly complete lunch. Those which cannot or will not manage this can get two cents per serving of milk. To prevent humiliating discrimination among children and to encourage financially the improvement of the lunch and its serving to many more pupils, the FDA office "subsidizes"—do I dare use that word?—at the rate of nine or six or two cents for each pupil served in the school concerned, whether or not he is able to pay all or part or none of the cost of the lunch. This is such a good proposition that we have difficulty in getting the schools to understand it, for what it means is that if a school feeds 1,000 children the complete meal daily and collects, say 15 cents from each of 800 of the 1,000 children who are able to pay this amount plus a nickel apiece from another 100 children who are able to pay that much but no more, plus

nothing from the remaining 100, its Federal reimbursement is nine cents times the full 1,000 children per day and not nine cents times the 100 "free" children. Its daily reimbursement from the FDA is \$90, not \$9.

What then is holding us back? I have already indicated several deterrents, namely loss of free labor, loss of surplus commodities, insufficient promotional staff, and the perplexing financial problems of the local school districts. If I am to give a full picture I should not omit mention of two other handicaps. The first of these is that the experience of the schools of the State and the Nation with some of the Federal agencies has not been an entirely happy one. The adjective "Federal" is therefore somewhat less than an asset in promoting this program.

The other reason goes much deeper. School people and especially school boards tend as a whole to be somewhat individualistic. Whether rightly or wrongly, some school authorities seem to object to the basic philosophy involved in Federal grants for school lunches. They say that Federal control will follow. They do not want Federal control. They say that these lunches will make children "dependent" on the Federal Government. They are opposed to this on principle. Many others do not say these things but there is evidence that they nevertheless think them.

Many thousands of New York State school children eat their mid-day meal in the vestibules of their little one-teacher schools or crowded around the stove, or in the cor-



Small wonder he's smiling. That's nourishing milk he's drinking

ridors or "basements" of their schools. Thousands of others go home to empty houses, for often both parents are out working. And what do many thousands of these boys and girls drink? Milk? Our data shows that many of them, even in rural districts, get no milk at noon and have had none all day when they go to bed at night.

No, they do not have the daily quart of milk or the two servings of vegetables and the two servings of fruit, or the three or four eggs weekly which we know their growing bodies need. But here is what some of them have eaten for lunch: First, a lunch made up of only cold

pancakes; second, a lunch consisting solely of salt pork and sausages; third, a lunch the only item of which is a cold potato; fourth, a lunch made up entirely of cold potato sandwich; another of pie only, another of doughnuts only, another of cake and frankfurters; another of candy and ice cream only.

An eye-witness report by our staff states:

"In a large central school I saw a first grader with plain bread and no butter or other filling. Other children around her had soup, milk, fruit, and other foods. The

teacher said the child's parents would accept no free food and could not pay."

That is one side of the picture. It does not have to be that way. Another report declares:

"One stove, small sink and worktable in an old storeroom. Elderly, kindhearted, motherly woman with help of children prepares a complete lunch. A table on wooden horses is set up in hall each day, and children come for food and eat in nearby classrooms. Children pay 40c a week for an A lunch. They had baked potatoes, creamed dried beef with corn, whole wheat bread and butter,

canned peaches and milk. All had the same good food. Teachers were with children while eating. Help was given to young children. The 'slow' eaters were encouraged. The children cleared the rooms, stacked the dishes, brought them back to the kitchen, helped with the dishes. A good lunch can be achieved with little equipment and expense *if* there is some one who has had the guidance to see the possibilities."

I leave it up to you which situation we shall approve and, more importantly, which situation we shall support.

The School Lunch Bill of the U. S. Office of Education—Federal Security Agency

The following Statement was presented to Committee on Agriculture, United States House of Representatives, by John W. Studebaker, U. S. Commissioner of Education, at hearing on Tuesday, February 15 1944.

A. Major Features of the Proposed Bill

1. It provides for a Federal appropriation of \$50,000,000.

2. It provides that school lunch programs be administered by the

respective states through their regularly constituted educational authorities.

3. It provides that the State educational authorities formulate well-conceived plans for adminis-



USDA photo by Forsythe

School lunches are building better minds, bodies and nerves in our children

tering the school lunch programs within the county, city, and local school districts, and requires that such plans provide for efficient operation, for compliance with standards of safety, and for use of community school-lunch resources.

4. It provides that Federal funds for aiding school lunch programs shall be available to any public or non-profit elementary or high school which fulfills the conditions agreed upon in the State plan.

5. It provides that not less than 30 per cent of the total school lunch costs for the first fiscal year in which the program operates in any given State be supplied from State, county, or local sources, and that thereafter Federal school lunch funds be matched dollar for dollar.

6. It provides that Federal funds be allotted to the states in proportion to two factors: (1) the ratio of the number of children per state, 5 to 17 years inclusive, to the number of adults, 20 to 64 inclusive, and (2) the total number of children 5 to 17.

7. It provides that not more than \$10,000 or 3 per cent of the state's allotment, whichever is the greater, may be used by the state for administrative purposes, including supervisory services and the training of personnel.

8. It provides that no more than 20 per cent of the expenditures for a given year shall be for items other than food.

9. It provides that all Federal school lunch funds shall channel through the U. S. Office of Education, Federal Security Agency, as the appropriate Government agency charged with carrying on Federal relationships with the

school authorities of the several states.

10. It provides that priority shall be given to the purchase of foods designated by the U. S. Department of Agricultural to be in surplus; it provides also that the Office of Education shall look to that Department for data and recommendations in the field of nutrition and shall make such data and recommendations available to the schools.

B. Major Differences Between the Proposed Plan and the Existing School Lunch Aid Program

1. *The proposed bill* provides that the school lunch program shall be administered by states through the regularly constituted state and local educational authorities.

The existing plan is administered by the U. S. Government through the Department of Agriculture which performs this task through either its regular sub-divisional agencies—regional, State, and local—or through personnel especially appointed for this purpose.

2. *The proposed bill* would make the school lunch a regular and permanent part of the school service; under it the school authorities would know definitely what they can count on, thus enabling them to plan effectively to provide such essentials to a successful program as personnel, building space, equipment, accounting systems, and the best use of community resources.

The existing plan, which grew out of the distribution of surplus farm products and for which funds now are provided through an

amendment to an agricultural marketing act, has naturally changed with farm marketing conditions. Further changes are likely as occasion demands, thus making a definite and permanent school lunch program most difficult of achievement.

3. *In the proposed bill* the amounts allocated to each state are definitely fixed according to a formula based upon the number of children to be fed at school and the relative burden of feeding such children per adult producer.

The existing plan permits wide discretion to the Food Distribution Administrator in the important task of dividing the Federal funds among the states, thus making it

difficult for the school authorities to know what to count on from time to time, and placing uncertain authority over a part of the school program in the hands of the Federal Government.

4. *The proposed bill* provides for maximum participation in the school lunch program by requiring that during the first year state, county, or local school districts shall provide 30 per cent of the cost, and that thereafter they shall match the Federal funds on a dollar for dollar basis.

The existing plan makes no such uniform provision for State or community participation in the Federally supported school lunch program.



East meets West over a bottle of milk, part of their school lunch

Need For A Revised School Lunch Program

By Paul V. McNutt

Administrator, Federal Security Administration

THE NEED for Federal aid in providing a noon lunch at school to every child needing it arises out of a number of basic reasons.

Many thousands of school children always have had and now have an insufficient supply of food—insufficient either in quantity or in essential nutritional elements, or both. Children come to school hungry because, due to poverty, un-

employment or improvidence, their homes fail to provide sufficient food or the right kind of food from a nutritional standpoint. In cases where mothers are employed outside the home the children frequently come to school with an inadequate breakfast and with a lunch entirely. A lunch at school is necessary if such children are to secure the maximum benefits from their instruction and if mal-

nutrition with its many serious effects upon mind and body is to be prevented.

Without financial aid from the Federal Government a comparatively small proportion of schools are providing or can provide noon lunches for all children needing them. Contrary to ideas commonly held by the public, fewer than one school in three now provides school lunch services.

Formerly funds for school milk and school lunches have been made available to a limited extent by appropriations to the Department of Agriculture under section 32 of Public Law 320, 74th Congress. This program was primarily designed as an aid in the disposal of surplus commodities. As I understand the present proposals under the program, indemnity payments would be made by the Department to local schools or approved sponsoring organizations for the local purchase of commodities used for the lunches. Formerly the Works Project Administration assisted in this work by providing administrative and technical help, but with the abandonment of that organization's program this burden now falls directly upon the schools.

It is my feeling that a program for school lunches and nutrition instruction should be considered basically as a part of the educational facilities and services to be furnished by our schools rather than as an adjunct to Government activities in unemployment relief and the distribution of surplus agricultural commodities.

If the program is to operate effectively it must achieve a position of stability and local control so that it may secure and train school lunch managers, set up adequate accounting systems, find or construct suitable rooms for school lunch purposes, provide certain essential items of equipment and make the best possible use of community school lunch resources. Efficiency of school lunch operation, sanitary considerations, and the potential contribution to the instructional programs are of such far-reaching importance that they must not be made subject to such frequently changing programs as public relief and agricultural marketing.

The school lunch should, I believe, become an integral part of the schools' instructional program. Important subjects like the proper selection and eating of food have such significant consequences in health that they must become a matter of daily concern to the school. Moreover, instruction in such fields as health education, home economics, agriculture, nutrition education and many others can obviously be made more realistic by utilizing the activities involving planning, supplying, and serving school lunches. If the program is integrated with the instructional facilities of the schools, the well-established relationships between the United States Office of Education and local school systems may be effectively employed in producing stability and economy of operation.



Our Daily Bread

PART IV

CONSOLIDATED REPORT

NEW YORK STATE

JOINT LEGISLATIVE

COMMITTEE

ON

NUTRITION

Introduction

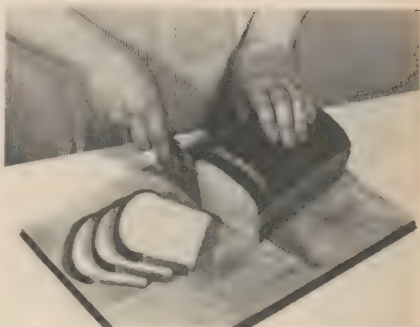
By Thomas Parran

United States Surgeon General

THE SCIENCE of nutrition has made phenomenal advances in the past three decades and especially in the past 10 years. As a part of the war effort, adequate nutrition is receiving much attention because of the all-important part food can play in winning the war. Obviously efforts to improve nutritional status should be directed towards both the home front and the battle front. It is to the credit of our age and our leaders that the most recent advances have been utilized so extensively in seeking to improve the dietary in this country.

Every effort is being made to disseminate the basic knowledge about food to the public. It has been amply demonstrated in the last few years that varying degrees of malnutrition exist in a significant proportion of our population. In order to maintain maximal efficiency in war production, the morale and the health of all people should be kept at the highest possible level. This may be accomplished in part by making available a nutritionally adequate diet.

Nature puts into the foods we eat the vital elements necessary for balanced health. Many of these elements have been depleted through our zeal for over-refining and by improper cooking methods. Many of our commonly used foods have been refined to conform to the dictates of choice, even though such a process results in the loss of nutri-



Enriched bread is building a healthier America

tive value. For example, the diets of many Americans contain less of the B vitamins than recommended.

With the approval of the National Research Council, the millers and bakers decided to add certain important nutrients to white flour and bread. Our grain supply assures us of plenty of bread, flour and cereal products to provide an abundant, economical, and nutritious food for our daily diet. Bread is eaten at almost every meal by most people. Therefore, the enrichment of white flour and bread appreciably improves the national dietary. The enrichment program provides for the addition of thiamin, niacin, riboflavin and iron to white flour and bread. Calcium and vitamin D may be added optionally. These additions to bread and white flour thus restore the most important of the vitamins and minerals lost in the refining process.

Four states have passed laws requiring the enrichment of all white flour sold.

Many of the milling companies are voluntarily enriching their products, thus making available to all the opportunity of purchasing an enriched white flour.

The enrichment of bread and white flour is one of the most important of our war time actions in the food field. It is one of the

accomplishments of government, science and industry which should go a long way toward relieving man of many of the ill effects of malnutrition, either manifest or hidden. The goal should be optimal nutrition for all, now and in the future, and for the whole world as well as for this country. I am confident that the goal is possible to achieve in the not too distant future.

Bread—Your New “Perfect Food”

By Thomas C. Desmond

Chairman, New York State Joint Legislative Committee on Nutrition

“**M**AKE mine on white.”
“I’ll take rye.”
“Whole wheat for me.”

Whether it’s in bakeries, diners or the corner grocery, the increasing demand for bread is being met—and will be met.

No headlines shouting “BREAD RATIONED” will be seen in our newspapers, insofar as we can presently determine; for America, though short of meat and butter and other foods, is blessed with fertile fields of golden grain.

Heaped in our granaries and sown on our farms are enough wheat to enable us not only to meet our own needs but also to ship tons of the precious life-giving grains to our allies.

Although we do not have as comfortable a supply of shortening and sugar, needed for making loaves of flavor-full bread, leaders of the baking industry estimate that we will have enough to keep on turning out the millions of loaves America wants.



Sandwiches of enriched white bread on the lunch box assembly line

Consumption Soars

Bread consumption is leaping upward dramatically. In 1941 we ate 10 million loaves of bread; in 1942, 12½ million; in 1943 approximately 14 million loaves of bread.

Part of this increase is due to large amount of bread consumed by the Army. While the average American eats six slices of bread a day, the boys in the armed forces average eight or nine slices. Housewives, confronted with food shortages, are using bread as "extenders." Families which hitherto lived on marginal diets and are now earning large salaries in war plants are buying all the bread they want.

The Bread of Our Fathers

Bread has been a favorite food for thousands of years. Bread-making is one of the oldest arts. The calcined remains of bread made from coarsely ground grain have been found dating back to the Stone Age. Egyptians were especially adept at bread-baking although they were in the habit of kneading dough with their feet!

Slaves and criminals were used by the ancient Romans and Greeks to aid the public bakers in grinding grain. And woe to the baker who charged excessive prices or sold an inferior product. The penalty in Constantinople as recently as the 1700's was often hanging; and in Turkey and Egypt there was the quaint penalty of nailing bakers by their ears to the door-posts of their shops.

Even in our own country during the early days of its growth, bakers came under rigid control as to price and sanitation.

The Miracle of Enrichment

But there was no need then to fortify our bread with vitamins and minerals, for like the bread that mother baked it was made from coarsely ground wheat, and was rich in essential nutrients. However, at the turn of the 20th century, mills ground our flour so finely that it was robbed of important food elements.

Bread enrichment, which is today beginning to build a healthier America, had its origin just before we entered World War I, when Professor E. V. McCollum, of Johns Hopkins University, one of the founders of the modern science of nutrition, discovered in wheat germ an antineuritic substance which he called vitamin B. Other scientists carried forward his initial findings, and by 1922, it was definitely known that nearly 90 per cent of the B vitamin was ground out of our white flour!

Surveys in the early 1930's clearly indicated that more than a third of non-relief families were living on poor diets. Large numbers of Americans, examinations showed, were suffering from a deficiency of B vitamins, a lack of which produces fatigue, nervousness, depression and in many clinical cases, pellagra and beri-beri.

As the shadows of impending war lengthened over our country in 1940, the bakers of America, at the recommendation of Surgeon General Thomas Parran, Jr., pledged their cooperation to fortify our vitamin-stripped bread. Action came rapidly. By the end of 1941, one-third of our white bread was enriched; a year later, nearly three-fourths was enriched.

In January, 1943, Uncle Sam made enriched white bread compulsory. But progress did not stop there. Ten months later, the Federal Government raised the enrichment standards so that today our white bread is full of beneficial vitamins and minerals. Today, six slices of white bread furnishes you the following amounts of your daily requirement of essential food elements:

- 40 per cent of Vitamin B₁ (thiamine)—the vitamin required for normal appetite, normal intestinal activity, normal function of the nervous system.
- 30 per cent of Iron—needed to make good red blood and prevent nutritional anemia.
- 16 per cent of niacine—the vitamin that aids in the prevention of pellagra.
- 13 per cent of vitamin B₂ (riboflavin)—the vitamin that is needed for general health and vitality, and to prevent lesions about the mouth and face.

Enrichment is a simple process for bakers. Four main methods are used: (1) use of enriched flour; (2) addition of special yeast rich in the B complex; (3) use of synthetic vitamins in tablet form; and (4) a combination of these three.

Already the results of the enrichment program are apparent. Dr. Norman Jolliffe, of the New York University College of Medicine, reveals that cases of beri-beri and pellagra have decreased "markedly and unmistakably" in the wards of Bellevue Hospital. Only one-fourth as many patients with full-blown beri-beri and only one-third

as many pellagra patients are seen now in the wards of this hospital. Dr. Jolliffe attributes the decrease to the bread enrichment program.

Less dramatic but more important is the effect of the enriched bread upon the millions of our people suffering not a clinical disease but from "hidden hunger."

"But what sense is there in first stripping our bread of vitamins and then restoring them?" you ask. Millers answer that changes in milling require large sums of money, that our people would not like bread that does not have the desired "whiteness." They point to the fact that despite the urgings of nutritionists over a long period of years, 90 per cent of the bread consumed in our country is white bread.

Bread of Other Countries

Well may America be thankful for its bountiful supply of healthful, tasty bread. England, for example, requires consumption of a National Wheat Meal Loaf which is much more nutritious than its prewar bread but still doesn't come up to the standards of our enriched bread and is tasteless. Mrs. Franklin D. Roosevelt, upon her return from a trip to England last year, informed me that while the English dark bread is good, our soldiers there "do not like it and won't eat it."

And Norwegians under the Quislings, are forced to eat a soggy, dark bread of unknown nutritional standards, but so full of husks as to be almost inedible. Norwegians say it must be made of wood cellulose.

Bread of the Future

Not content with the amazing progress we are making in development of bread, government officials, scientists and bakers are studying the possibilities of a postwar bread that will compete with milk for the title of "The perfect food." This bread of the future may contain at least 6 per cent milk solids, 5 to 10 per cent of soybean flour, supercharged B complex yeast, in addition to the present contents of bread.

Tips for Housewives

When I asked bakers what tips they had for American housewives they mentioned these five as being most important:

1. Read bread labels closely. When you buy "wheat bread," you are not getting "whole wheat bread," but rather wheat flour mixed with white flour.

2. If you bake your own bread, mix soybean flour with white flour. This will improve the bread's flavor, texture and health-value.

3. Don't buy too much bread. America wastes an enormous amount of bread. If your bread becomes stale, dry it out still more some day when you have the oven on; make bread crumbs, or dry bread dice. To refresh the entire loaf, at night, when you have finished the dishes, take a clean tea towel, make it quite damp, and then wrap it around the entire loaf; in the morning you will be elated to find how moist it has become.

4. Cool home-baked bread before storing in well ventilated box. In warm climate, keep bread from moulding by wrapping it in mois-

tureproof paper and putting it in refrigerator.

5. Corn bread and rye bread, contrary to popular conception, are not as nutritious as enriched white bread.

And what advice do our doctors have for us in guiding our bread-eating habits? The medical men say that bread may well supply at least 40 per cent of the calories in our daily diets; this means from six to eight slices of bread daily. They caution us that we cannot get all the nutrients we need by stuffing ourselves with bread, but point out that bread, eaten as part of a balanced diet, is not fattening.

Bread, one of our best and cheapest sources of essential food energy, has again become, in truth, the staff of life. Helping to ease our tired muscles, stimulating our appetite, curbing us from moody sluggishness, enriched bread is giving us gradually the power we need for modern living.

Soya Bread

3 c. soya flour
9 c. sifted all-purpose enriched flour
4 c. milk
1 c. lukewarm water
5 tbsp. sugar
5 tsp. salt
5 tbsp. shortening
2 cakes yeast

The soya flour in this recipe is not sifted before measuring. Stir flours together, and proceed as follows: Scald the 4 cups of milk, and to it add the sugar and salt. Dissolve yeast with 1 cup lukewarm water and to it add 1 teaspoon sugar. Let stand for 10 minutes. When the 4 cups of milk have cooled, add dissolved yeast to milk

mixture. Next add flour and the softened shortening. Mix well and turn out on a floured board. Knead until dough becomes elastic and does not stick to board. Place in a greased bowl, cover, allow to rise until double in bulk, then punch down. Allow to rise a second time until double in bulk. Remove bread from bowl, punch dough down, and cut into four equal size loaves. Shape, cover, and allow to stand 20 min. on baking board.

Then flatten out each loaf and again reshape. Place in greased pans. Allow to rise until double in bulk, or until, when pressed with a finger, the imprint does not disappear. Bake in a preheated 350° oven for 1 hour. This recipe makes approximately four 1½ pound loaves.

NOTE: Before placing bread in oven to bake, sprinkle top of unbaked bread lightly with lukewarm water. This gives a more even browning to the bread, and also makes the top crust much softer.

Always remove the bread immediately from the pans after finishing baking. Otherwise, the bottom crust is apt to become soggy, and the texture of the baked bread is not so nice. It is suggested that bread cool on wire cake coolers.

White Bread

Straight Dough Method

About 13 c. all-purpose enriched flour
(sifted before measuring)

4 c. milk

1 c. lukewarm water

5 tbsp. sugar

5 tsp. salt

5 tbsp. shortening

2 cakes quick-acting yeast

1 extra tsp. sugar

Scald milk, add the sugar and salt. Dissolve the yeast in the lukewarm water, add extra teaspoon sugar, let stand for 10 min. When milk has cooled, add dissolved yeast. Next add flour, and softened shortening. Mix well and turn out on floured board. Knead dough until elastic and it does not stick to board. Place in greased bowl, cover, and allow to rise until double in bulk, then punch down. Let rise a second time until doubled. Remove dough from bowl, punch down, and cut into 4 equal size loaves.

Shape, cover, and allow to stand 20 min. on baking board. Then flatten out each loaf and again reshape. Place in greased pans. Allow to rise until double in bulk, or until, when pressed with finger, the imprint does not disappear. Bake 1 hour in preheated 350° oven. Makes approximately four 1½ pound loaves.



FSA photo by Lee

Our Daily Bread

By Drs. W. L. Nelson and L. A. Maynard

School of Nutrition, Cornell University

OVER twelve billion pounds of bread are eaten in this country every year. It is a cheap food which contributes largely to the calorie and protein needs of the diet. When enriched or made from whole grains, it supplies important amounts of certain vitamins and minerals as well. The principal ingredient of bread is flour, and thus the best starting point in its discussion is the flour from which it is made.

Wheat Flour

Most all of the bread consumed in this country is made with wheat

flour. The nutritive value of flour is dependent to a considerable extent on the amount of the total wheat berry which is included in its manufacture. A whole wheat flour is referred to as a high or long extraction flour and contains from 90 to 95 per cent of the whole grain, while patent flour or white flour is a low or short extraction flour containing 70 per cent or less of the whole grain. Whole wheat flour contains nearly all of the nutrients of the wheat berry. The stone-ground flour of a century ago, though including much less of the bran, and thus nearly white in

color, contained concentrations of the vitamins and minerals comparable with those of the whole

grain. This is far from the case for flour as now milled, as is shown by the data in Table I.

Table I. Thiamine and Riboflavin in the Products of Commercial Wheat Milling

<i>Mill Product</i>	<i>Thiamine mg. lb.</i>	<i>Riboflavin mg. lb.</i>
Cleaned wheat	2.2	0.45
Patent flour	0.32	0.15
First clear	1.20	0.28
Second clear	3.76	0.84
Red Dog	11.74	1.72
Shorts	8.03	1.28
Bran	3.99	1.28

Patent flour contains about 15 per cent of the thiamine and 35 per cent of the riboflavin of the original wheat, the remainder going into the by-products fed to animals for the most part. The present enrichment program for flour and bread was adopted for the purpose of making good these losses.

A comparison of the nutritive value of whole wheat, white, and enriched white flours are given in Table II. The values for thiamine, riboflavin, niacin, and iron are the minimum requirements of the Food and Drug Administration for this product. According to the industry, most of the family flour now on the market is thus enriched.

Table II. Nutrients in Whole Wheat, White, and Enriched White Flours

<i>Nutrient</i>	<i>Whole Wheat</i>	<i>White</i>	<i>Enriched White</i>
Calories, per lb.....	360.00	340.00	340.00
Protein, per cent.....	13.00	10.80	10.80
Niacin, mg./lb.....	25.00	3.50	16.00
Thiamine, mg. lb.....	2.20	0.35	2.00
Iron, mg./lb.....	18.00	3.00	13.00
Riboflavin, mg./lb.....	0.50	0.15	1.20
Calcium, mg./lb.....	159.00	90.80	90.80*

* 500 mg. is an optional level for enrichment.

Whole wheat flour is slightly higher in calories and substantially higher in protein than the other flours, but here questions of digestibility and biological value enter, as is discussed later. The larger differences occur with respect to minerals and vitamins. The relatively low values shown for white flour as compared to whole wheat represent milling losses. Flour meeting the enrichment standards,

however, very nearly equals whole wheat in niacin, thiamine, and iron content and contains over twice as much riboflavin. So far as is known to the writers, none of the enriched flour now on the market is enriched with calcium in accordance with the option referred to in the footnote of the table, and thus contains considerably less of this mineral than does whole wheat flour.

The data in Table II represent only those nutrients which various surveys of the average American diet have indicated to be present in insufficient amounts to assure optimum nutrition. They do not, therefore, serve as an indication of the absolute measure of the nutritive value of the flours being compared. For example, whole wheat flour contains much more phosphorus and other minerals than do the white products. But the data show the relative value of these products in furnishing those nutrients that are thought to be needed in greater amounts in the average American diet.

Some studies have been made on the various flours derived from wheat in order to evaluate the various nutrients in terms of human utilization. The proteins of whole wheat have been shown to be slightly less digestible, but of a higher biological value than those derived from white flour. **These studies have shown, therefore, that the body actually utilizes for growth and repair the proteins of whole wheat more efficiently than those derived from white flours.** Experiments indicate that calcium utilization is impaired somewhat in whole wheat flour, compared with white. Conflicting evidence exists as to the relative utilization of iron in the two products. It is generally accepted that the vitamins of both flours are equally well utilized by the body. The results of feeding experiments carried out on both laboratory animals and man indicate that whole wheat flour greatly excels unenriched white flour in nutritive value, as is

to be expected from its superior nutrient composition.

"Canada Approved" Flour

The Canadian Government, instead of adopting a program of enrichment to improve white flour, is urging the use of "Canada approved" flours which through modifications in the milling process retain much more of the vitamins and minerals than is the case for patent flour. The product represents an approximate 78 per cent extraction. It is nearly white and makes an excellent bread. It is officially named, "Vitamin B white flour (Canada approved)." It must contain per pound "not less than 400 I U (1.2 mg.) of vitamin B₁ with the other members of the vitamin B complex in the quantity associated with this amount of vitamin B₁ in the wheat from which the flour was produced." A type of whole wheat product officially named "Vitamin B flour (Canada approved)" is required to contain not less than 500 I. U. (1.5 mg.) of vitamin B₁ per pound. Reports indicate that the consumer acceptance of "Canada approved" vitamin B white flour is good, although its use is limited thus far.

British Wartime Wheat Flour

The United Kingdom has adopted a uniform wheat flour of 85 per cent extraction. To this flour two pounds of skim milk powder, seven ounces of calcium carbonate (*creta praeparata*) and, at various times, barley or a mixture of groats (dehulled oats) and barley have been added. The resultant flour is referred to as National flour.

It has been found to contain on the average, 11.3 per cent protein, and vitamins and minerals per pound as follows: 0.70 mg. of riboflavin, 1.32 mg. of thiamine, 8.0 mg. of niacin, 217 mg. of calcium, 10 mg. of iron.

Experiments indicate that the protein of National flour is intermediate in biological value between whole wheat flour and white patent flour. Compared with enriched flour meeting the U. S. minimum enrichment standards

(Table II) it contains somewhat less niacin, thiamine, riboflavin and iron, but more calcium and protein.

Other Flours

Soybean flour is now being used in combination with wheat flour to increase the nutritive value of baked products. The nutritive value of soybean flour is compared with whole wheat and white in Table III.

Table III. Nutritive Value of Whole Wheat, White and Soybean Flour

Nutrient	Whole Wheat	White	Soybean*	
			high fat	low fat
Protein, per cent.....	13.0	10.80	40.00	50.00
Niacin, mg./lb.	25.0	3.50	22.00	27.00
Thiamine, mg./lb.	2.2	0.35	2.20	2.70
Riboflavin, mg./lb.	0.5	0.15	1.45	1.80
Iron, mg./lb.	18.0	3.00	80.00	100.00
Calcium	159.0	90.80	1271.00	1588.00

* High fat soybean flour 20-24 per cent ether extract.
 Low fat soybean flour 2-4 per cent ether extract.

The high fat soybean flour is derived from the whole bean and contains most of the fat originally present in the bean. Low fat soybean flour is derived from meals from which the fat has been extracted during the production of soybean oil. As can be seen, even relatively small amounts of soybean flour would contribute substantial amounts of protein, thiamine, riboflavin, iron, and calcium to the finished product.

Rye flour is similar to the wheat flours in its content of thiamine, niacin, and riboflavin. The degree of refining affects rye flour in a manner similar to that of wheat. In Table IV a comparison of the thiamine, niacin, and riboflavin value of rye flours with wheat flours is made. It is noted that dark rye flour which is more commonly used than the white type is much richer in the vitamins.

Table IV. The Thiamine, Niacin, and Riboflavin Content of Wheat and Rye Flours

Nutrient	Wheat flour		Rye flour	
	Whole	White	Dark	White
Thiamine, mg./lb.	2.20	0.35	1.45	0.68
Niacin, mg./lb.	25.00	3.50	5.54	3.20
Riboflavin, mg./lb.	0.50	0.15	0.77	0.33

Specialty Breads

The various breads derived from flours other than wheat are consumed in only limited quantities in the United States. The nutritive value of these breads depends to a large extent on the type of flour used in its baking. Rye breads for the most part are made from the dark flour, and are, therefore, similar to whole wheat bread in nutritive value.

The addition of soybean flour to wheat flour improves the nutritive value of the bread thus made. An "Open Recipe" bread containing 5 per cent soybean flour and 4 per cent skim milk has been marketed in Ithaca and vicinity with successful consumer acceptance. The nutritive value of this bread compared with white bread meeting the minimum enrichment standards is given in Table V.

Table V. The Nutritive Value of "Open Recipe" White Bread (5 Per Cent Soybean Flour) Compared with the Minimum Enrichment Standards

Nutrient	"Open Recipe" with enriched flour	Enrichment standards for white bread	
		Present	Proposed
Protein, gms./lb.	50.00	31.78*	31.78*
Niacine, mg./lb.	15.45	4.00	10.00
Thiamine, mg./lb.	2.15	1.00	1.10
Riboflavin, mg./lb.	1.00	....†	0.70
Iron, mg./lb.	13.44	4.00	8.00
Calcium, mg./lb.	225.00††

* No standard set for protein content. This value is based on the average for white breads.

† Optional ingredients. If included as an optional ingredient, riboflavin would be 0.80 mg. and calcium would be 333 mg. under present standards and 300 mg. under proposed standards.

The addition of soybean flour to wheat flour not only increases the total protein content, but also the biological value of the protein of the bread. At the same time, the texture and general appearance is not noticeably different from that of the usually more acceptable white breads.

Breads

The important constituents of bread from a nutrition standpoint are flour, shortening, skimmilk and yeast. Bread also contains approximately 35 per cent of water. The amounts of the different ingredients used vary in different formulas. A particularly important factor

in the nutritive value of bread is the amount of skimmilk solids used. Six per cent is commonly mentioned as the desirable level for these solids, but at the present time, 4 per cent is the maximum that can be used, according to Federal regulations adopted because of the short supply. Actually most breads on the market at the present time contain less than 3 per cent and some may have none. Shortening, which adds to the calorific value of the bread, also appears to be present at a lower than normal level in the breads now being marketed. Reflecting the nutritive values of the flours previously discussed,

there are important differences in breads according to whether whole grain or ordinary white or enriched flour is used in their manufacture. Enriched bread can be made from enriched flour or by the use of other means of supplying the required nutrients. Special high-vitamin-containing yeast and additions of the crystalline vitamins are often used by the baker to produce the enriched product.

A comparison of the nutritive value of white, white enriched, and whole wheat breads made with water and dried skim milk is given in Table VI. It can be seen that bread meeting the present minimum enrichment standards contains more of the various essential nutrients than unenriched white bread, but is still somewhat below those present in whole wheat. The beneficial effects that the addition of 6 per cent dried skimmilk im-

parts to the various breads is especially shown by the marked increase in calcium, riboflavin, and to some extent, protein. The phosphorus, although not considered a critical nutrient and therefore not included as an enrichment ingredient, is increased by about 50 per cent when skimmilk is included at the 6 per cent level. In regard to the enrichment standards, calcium and riboflavin are at present listed as optional ingredients. As a result, most enriched breads contain these nutrients in amounts equal only to that shown for unenriched white bread (Table VI). New enrichment standards, which are expected to become effective soon, will require the addition of riboflavin but not of calcium. These new standards will also require a substantial increase in the amounts of iron and niacin in enriched breads (Table VI parentheses values).

Table VI. The Composition of White, Enriched, and Whole Wheat Breads and the Effect of Adding Dried Skimmilk at a 6 Per Cent Level (Values on a 35 Per Cent Moisture Basis)

Bread	Protein per cent	Calcium mg./lb.	Iron mg./lb.	Thiamine mg./lb.	Riboflavin mg./lb.	Niacin mg./lb.
White—						
made with water.....	6.95	88.6	2.0	0.30	0.11	3.4
made with 6% D.S.M....	7.70	342.0	2.4	0.35	0.41	3.5
Enriched—						
made with water.....	6.95	88.6*	4.0†	1.00†	.11*	4.0†
			(8.0)†	(1.10)†	(0.7)†	(10.0)†
made with 6% D.S.M....	7.70	342.0	4.4	1.05	1.1	4.1
		(553.0)	(8.4)	(1.15)	(1.0)	(10.1)
Whole Wheat—						
made with water.....	7.70	106.0	11.6	1.29	0.66	20.4
made with 6% D.S.M....	8.40	359.0	12.0	1.34	0.96	20.5

* Optional ingredients in enriched bread. Calcium would be 333 and riboflavin 0.8 mg./lb. if included as an enrichment ingredient.

† Minimum enrichment levels.

() Values in parentheses represent bread meeting the new proposed minimum enrichment levels.

A comparison of the per cent of the minimum daily requirements set up by the Food and Drug Administration furnished by six ounces of the various types of

breads is given in Table VII. The nutrients listed are those which are included in the enrichment program. It can be seen that bread meeting the present enrichment

standards approaches whole wheat in value and very nearly equals whole wheat when meeting the new proposed standards for enrichment. The vitamin niacin has been omitted from this table, as no definite

requirements for man have been established for this nutrient. However, the amount required to meet the enrichment standards is of importance in improving the nutritional status of the average diet.

Table VII. Per Cent of the Minimum Daily Requirement Furnished by 6 Ounces* of Bread Made with Water

<i>Nutrient</i>	<i>Whole Wheat</i>	<i>White</i>	<i>Enrichment standards</i>	
			<i>Present</i>	<i>Proposed</i>
Thiamine.....	48.4 (50.2)	11.0 (13.0)	37.5	40.0
Iron.....	43.5	7.5	15.0	30.0
Riboflavin.....	12.3 (18.0)	2.0 (7.7)	2.0†	13.0
Calcium.....	5.3 (17.9)	4.4 (17.0)	4.4†	4.4†

* Average daily consumption in U. S.

† Optional ingredients. Riboflavin would be 15% and calcium 15% if included as enrichment ingredients

() Figures in parentheses show the effect of adding 6 parts of dried skim milk to each 100 parts of flour.

Digestion experiments carried out on both man and rats show a slightly lower digestibility but higher biological value for whole wheat bread proteins compared to the proteins of white bread. This seems to hold true whether the breads are made with high vitamin yeasts or with appreciable amounts of skimmed milk, although the differences are much less apparent when skimmilk solids as high as 6 per cent are used. In this same paper the beneficial effects on growth and bone formation from the inclusion of skimmilk in bread are clearly shown. It has been mentioned that the content of skimmilk solids is undoubtedly low in the breads now being marketed. In

fact, this was apparently the case even when larger supplies of the product were available, as is indicated by data obtained in this laboratory in 1942, presented in Table VIII. The results were obtained from a study of 33 breads mostly on the Ithaca market, including other nationally advertised and local brands. It is noted that most of the breads fall well below the 6 per cent skimmilk solids level. The average milk solids for brands claiming milk amounted to 2.28 per cent while the brands not claiming milk contained an average of 2.32 per cent. The average for all brands is 2.31 per cent and approximately one-fifth of them contained less than 1 per cent.

Table VIII. Skimmilk Solids in Bread Purchased on the Open Market, 1942

<i>Non-enriched Breads</i>		<i>Skimmilk solids per cent (dry basis)</i>	<i>Enriched Breads</i>		<i>Skimmilk solids per cent (dry basis)</i>
1	.....	0.34	*17	Cracked Wheat ...	0.80
*2	.....	0.35	*18	Whole Wheat	1.76
3	75% Whole Wheat.	0.53	19	.....	1.83
*4	.....	0.56	*20	.....	1.83
5	Cracked Wheat ...	0.72	21	.....	2.09
6	100% Whole Wheat	0.89	22	.....	2.38
*7	Cracked Wheat ...	1.04	*23	Missouri	2.71
*8	.....	1.26	24	Missouri	2.94
9	.....	1.36	25	.....	3.02
*10	.....	1.39	26	Kansas	3.18
11	.....	1.87	27	Kansas	3.21
12	Cracked Wheat ...	2.16	28	.....	3.61
*13	.....	2.47	29	.....	3.96
14	.....	2.49	*30	.....	3.97
*15	Cracked Wheat ...	3.07	31	.....	4.29
16	Soft twist	3.28	*32	.....	4.56
			*33	.....	6.20

* Claim of milk or milk solids on label.

From the previous statements and tables of composition of the various breads the following points are evident: (1) Whole wheat breads excel both white and white enriched breads in general nutritive value. (2) White enriched bread contains more thiamine, niacin, and iron than white bread and the amounts are standardized by law. (3) The amount of skimmilk solids is of large importance in the consideration of the nutritive value of breads.

In evaluating whole wheat, white, and white enriched breads several experiments have been reported where white rats have been fed the various breads plus water as the only source of food. As would be expected, whole wheat bread has proved to be a better growth promoter than white enriched or white unenriched bread. But enriched breads have generally shown about the same growth promoting value as unenriched breads, resulting in questions as to the value of the enrichment.

Actually, the experimental technique is at fault. It must be borne in mind that bread in itself is far from being a complete food and a deficiency of only one nutrient can limit growth even though other factors are present in liberal amounts. The addition of thiamine, niacin, and iron would not make a bread and water diet adequate for growth. Thus the ad libitum feeding of enriched and white unenriched breads is an unsatisfactory method of evaluating the individual nutrients present in these breads. It is clear, however, that an animal or human diet which is deficient in thiamine, niacin, or iron will be benefited much more by the addition of enriched bread than by unenriched bread when fed on equal weight basis. The same would be true for any other nutrient which might be included in the enrichment program.

The enrichment program is certainly an important means of providing those nutrients which surveys have indicated to be present

in deficient or border line amounts in the average American diet. It is deserving of full public support. Despite its nutritive superiority, whole wheat bread has the very practical limitation that it does not meet public acceptance. The large amounts of bran present cause gastro-intestinal troubles in some in-

dividuals. And, in spite of widespread urging by nutritionists in this country, the use of 100 per cent whole wheat bread has amounted to a very small per cent of the total bread sold. There has been no material increase in its consumption during the past quarter of a century.

Public Health Aspects of Bread and Flour

By Robert R. Williams

THE INDISPENSABILITY of food is undisputed. One must have something to eat at frequent intervals. However, the pangs of hunger can be satisfied by almost anything digestible, whence the intuitive feeling that food is food. Choice among foods is largely a matter of gustatory pleasure according to traditional popular notions.

We have long survived the practice of choosing our foods in browsing fashion, picking item after item as it offers itself and as it appeals to our several fancies. We have been under no painful necessity of measuring and weighing so much of this and so much of that as does the diabetic. We are prone to skepticism about the science of dietetics so long as we experience no distress just before or after meals.

It is very fortunate that random choice suffices after a fashion, for had we been compelled to learn the science of nutrition to find adequate subsistence man would never have adorned the earth. Our ability to subsist without nutritional science has been partly due to instinct which tells us to choose something digestible. It is even more due to the fact that all living things employ metabolic processes similar to our own, and so contain within *their* tissues all the nutrients *we* need. We have been endlessly safeguarded against specific wants by our kinship to the plants and animals we eat and also by the fact that there is nothing else to eat. Had we had offered to us non-

living sources of food, say oil wells of glyceride fats or subterranean beds of starch, we should have discovered ages ago that our nutritional needs are really very intricate and exacting.

The suitability for human food of all living things (barring the occasional occurrence of poisons) is a principle of general validity, but it can be, and has been historically, carried to extremes. While whole plants or whole animals contain in general the nutrients we require, it does not follow that each portion of each plant or animal is so endowed. In savagery man got variety for he could not find enough of any one thing to eke out existence. He also ate things whole or approximately so for he had little facility in excising parts which appealed to his fancy. But as he settled down to agriculture, he began to concentrate on a few crops which bore abundantly where he lived, notably the cereals. He bred these for their seeds and ignored the roots, stalks and leaves which were relatively inedible. Gradually, he learned how to discard the bran of the seeds and progressively he did so. Whereupon, after some centuries he learned by unhappy experience of the existence of vitamins.

The foregoing is a thumbnail sketch of the development of the modern science of nutrition, but it is an essentially true one. Out of the practice of milling rice came beriberi and the recognition of de-

iciency disease. We even owe our recognition of scurvy as a specific deficiency disease to the Oriental practice of polishing rice, for it was in an endeavor to produce ships' beriberi in guinea pigs that Holst and Frolich encountered the lack of the anti-scorbutic substance in unsprouted grains. In a sense it was this same human predilection for refining cereals that led to the use of "synthetic" diets in the study of the growth of rats in England and America. The base of these so-called synthetic diets used for the discovery of other vitamins was prevailingly starch.

The translation of the Oriental experience concerning beriberi and rice to the Western wheat-eating world required, and even yet requires, much discretion. It is indeed a far cry from the Chinese coolie's bowl of rice to the relatively varied diet which the average citizen of the United States enjoys. Variety tends to protect the latter from gross deficiencies, but the base of the Westerner's diet is still a decorticated grain. Wheat products, very largely white, constitute a fourth of his total caloric intake, on the average amounting to 155 pounds per capita per annum in the United States. To this he adds about 100 pounds per annum of refined sugar to make a total of 40 per cent of his calories. One also must reflect that these foods are the cheapest sources of energy so that low income groups in general surpass these figures. Among laborers' families a consumption of 250 pounds of flour, or of flour and meal together is not rare under normal economic conditions.

Enrichment of Bread and Flour

This furnishes the essential basis for the emphasis which has been placed on the improvement of bread and flour as the prime nutritional problem of this country.

While the movement to enrich white flour with the appropriate vitamins and iron has gained the support of the great majority of nutritionists in this country, it is opposed by some on three grounds. Some agree that there is need for reform, but decry the use of synthetics in preference to the whole grain which would supply the needed substances. Others think the need for additional amounts of these vitamins has been greatly exaggerated. A few express fear of "a vitamin imbalance" through supplying only those vitamins which are practically attainable commercially.

Many of the supporters of enrichment of bread and flour can agree in theory with those who favor whole grain as a remedy. The difficulty is to get the remedy applied. Advocacy of the use of whole grain is not new. It has been tried repeatedly by commercial companies in this country with very limited success. Of these, the effort to establish "Staff" bread is the most recent as well as the most ambitious attempt. It was carried out simultaneously with the inauguration of the enrichment program, but it failed while the latter succeeded. A national experiment in long extraction flour under the auspices of the Swiss Government in 1936-37 also failed. Long extraction flour is now in use in Eng-

land under the necessities of war, but its popularity is not such as to promise that it will endure under peace conditions.

Health in Capsules

It is quite true that many radio programs nauseatingly exaggerate the possibilities of vitamins. From these roseate accounts, one might judge that the beauty of a Venus, the strength of Hercules or even eternal youth may be had for a few shekels at the nearest corner store. No one is more distressed by this than those who have devoted years of sober study to the isolation and identification of these elusive mechanisms of Nature. But let us be realistic. All sorts of goods are advertised these days in extravagant terms and the radio forces them on our consciousness. We can skip the advertising pages of a newspaper, but it is difficult to skip the ads in radio programs. If we were more expert about other goods, we would realize that the advertising associated with many of them is similarly colored. Actually the present vogue for extensive advertising in spite of a deficiency of goods to sell is primarily a product of our excess profits tax on corporations. The Government will take the money any way so why not spend it on advertising is the reasoning behind it.

In so far as vitamin dosing is a useless fad, it will presently die away. In so far as people experience benefits, they will continue the practice. The truth lies somewhere between the extremes and the public will presently discover it. Let no one suppose that vitamin sales

have mounted solely or primarily because of advertising, nor that the bulk of the production is going into tablets and capsules for self-medication. Demand for many members of the vitamin B complex remains trivial in comparison with that for those which have been endorsed for use in staple foods.

Moreover it is clear that much of the output of capsules and tablets is used by people who have long used the products and who believe they have experienced benefit. In so far as this benefit is real and continuing, the practice will continue. Unless they are reminded by returning malaise, people will "forget to take their medicine" as people have always been prone to do. That repeat use of vitamins is so prevalent is evidence that a substantial fraction of the supposed benefit is real.

The total annual value of vitamin products sold in the United States is about \$1 per capita of which a large fraction goes into staple food products, bread, flour, oleomargarine and milk at modest prices and in moderate proportions. Modest but genuine benefits accruing to even 10 per cent of the population would justify such an expenditure, amounting as it does to only a quarter of 1 per cent of the cost of living. Any other significant improvement of the diet, such as a uniform use of a pint of milk for adults and a quart for children, would cost a score of times as much.

The popular use of synthetic vitamins is justified only on the assumption that it is not physiologically harmful. If a nice balance of the proportions of the

several vitamins in the diet is required for health, the generous use of selected synthetics would disturb it. While it would be rash to say that proportioning is a matter of indifference, it can be said from the history of vitamin research that the balance is not a delicate one. We discovered each of the B vitamins by adding them successively in unknown amounts to diets previously found deficient. Each time the effects were additive, not sometimes plus and sometimes minus as would be the case if the balance were delicate.

This is not to say that adverse effects might not be encountered if disproportionate fortification were carried to extremes. It is for this reason that the Food and Nutrition Board of the National Research Council has opposed indiscriminate fortification of food-stuffs with vitamins and has favored additions only in the case of specific widely used staples of known deficient character. For the same reason, addition of vitamins to staples is favored only in limited proportions and the selection of the vitamins to be added is restricted to those for which there is a specific and reasonable sanction. The overall effect of such additions is therefore within the limits which could be achieved by reasonable selection of natural foods. Under these circumstances, there can be no hazard of imbalance.

In addition to assurance of the *a priori* reasonableness of bread and flour enrichment, of its economic justification and its harmlessness, the public health official will want evidence of its positive worth for the physical well-being of the

population. This evidence is very difficult to secure in incontrovertible and quantitative form. If there were a widespread prevalence of forthright deficiency disease liable frequently to dramatic and fatal termination, achievement by enrichment would be much easier to measure. Pellagra is to some extent such a forthright disease, but the proportion of fatalities has greatly declined and mild deficiency now predominates. This has been true all along of thiamine and riboflavin deficiencies as well as of nutritional anemia. The results which we can anticipate are therefore enhancement of vigor and industrial efficiency of adults, better growth and improved health level in children, etc. These are differences of degree which are not readily made evident in vital statistics, yet their aggregate effect may be greater than that of the eradication of a sporadic fatal disease.

It is to be feared we shall have to wait for years for conclusive evidence. In the meantime, we shall have to be content with partial evidence. Such partial evidence is supplied (1) by dietary surveys showing suboptimal levels of these nutrients in prevailing dietaries of low paid components of society, (2) by the prevalence of recognizable symptoms which yield to vitamin therapy, (3) by limited experiments with controlled groups of human beings, and (4) by more numerous animal experiments. All tend to confirm one another but fall short of affording means of prediction as to the measure of improvement to be expected in the population as a whole.

Prospect of adequate evidence is further deferred by the fact that enrichment of bread and flour is not yet reaching down where it will do the most good. This applies particularly to flour, as bread is sold on a more democratic basis. Many bakeries serve rich and poor alike with the same loaf. However, in our South, homemade bread rather than bakery bread is the staple and the key to the situation there is family flour. Such flour of the cheaper grades is sold on a highly competitive basis as to price. A large volume of it is not enriched because the enrichment cost of about ten cents per 100 pounds is a competitive handicap. The people who buy this flour include a large fraction of those who need enrichment most because their diets are of meagre variety.

State Action Urged

We must address ourselves to the solution of this problem at once. Public appeal will not meet the need, for low income people are the hardest to reach by printed word or radio. Federal legislation would be valuable, but it may be difficult to secure now that the administration and Congress are engrossed with war problems and the controversies of a presidential year. **State action seems the most available means.** The lead has been taken by South Carolina, Alabama, Louisiana and Texas which have all enacted laws requiring the enrichment of white bread and flour. Other states should follow their example and enact such laws at the next sessions of their legislatures.

Such state laws will serve a very useful purpose even after Federal enactment of such legislation for the latter can control only interstate commerce in bread and flour. Local production and sale will remain the responsibility of the state. It is conspicuously true that unenriched flour and bread is now produced mostly by small local millers and bakers. Many small bakeries are ignoring the existing War Food Administration order requiring the enrichment of white pan bread and the Administration, burdened as it is with many matters related to war food management, has not the personnel and machinery to enforce it fully.

We have succeeded by voluntary action to the extent of about 75 per cent of the family flour and an equal proportion of bakery bread. After two years' experience at about this level of enrichment, we can say that the practice is entirely feasible commercially and controllable from a public health standpoint. This makes legislative action possible and reasonable as it would not be without such experience.

In preparing state laws, it is important that there be uniformity of the provisions. Otherwise producers of bread or flour will be burdened with the necessity of preparing special products or special labels for shipment into the several states. This can only add to costs and may undesirably restrict the commercial distribution of the products. Proposals for uniform provisions are in preparation by competent persons interested in enrichment and the National Research Council, Washington, D. C.,

will be able to provide information about their progress in the matter from time to time.

To get behind this movement vigorously requires faith in the worth of the cause. Such faith may come from contemplation of the astounding number of people with symptoms of deficiency disease which appear in our clinics, of the thousands of young men in their prime who have been rejected for military service for physical unfitness, or even from reflection on the

fact that livestock and poultry raisers find that good scientific nutrition pays. All we are asking is that America invest a relative pittance to prove whether this clear indication of nutritional science can be realized in a sturdier manhood and womanhood tomorrow. Fifteen cents per capita per annum represents the present cost of enriching every pound of bread and flour consumed in the country. Are you willing to gamble that much or will you save it for postage?

Bread of the Future

By Dr. C. M. McCay

Lieutenant Commander, H-V(S), USNR

BREAD is an important item in the nutrition of our Nation because the amount eaten by the average person is about six ounces per day. Since few people pass a single day without eating some bread, the nutritive value of this part of the diet is very important. Bread of high nutritive value may be the factor that shifts the national balance toward excellent or toward poor nutrition.

Bread must not only have a high nutritive value but must also have a taste appeal that makes it compete with the many items in our dietary that tend to displace it.

As one looks over the different periods of history or even studies the breads in use by different nations today he is amazed at the difference in nutritive value and flavors. Probably no other single item of food is so variable. At the

Bread of the future will be even more healthful than present day enriched bread



same time the student of bread cannot help but feel that American bread fails to equal the best that can be produced.

Anyone who travels abroad is struck by the great differences in the amounts and kinds of bread eaten by various nations. The huge bakery turning out its excellent loaves of heavy rye bread in Leningrad makes one ask how much of the excellent health and stamina of the average Russian is due to the bread he eats. The excellent dark breads of Germany make one wonder how much of the miracle of turning sickly children from the first World War into the husky soldiers of the present one is due to the bread. The extensive use of white breads made with water in France raises the question of the weakness in their national nutrition due to a poor bread.

The importance of the amount of bread eaten was driven home to the author a few months ago when he was pondering over the success of the new "National Bread" in England. The English report no major troubles from this bread although it represents an extraction of about 82 pounds of flour from 100 pounds of wheat. During the first World War the French found the fiber in bread made from flour of similar extraction caused them much trouble. The difference between the two nations is probably due to the fact that the French are much heavier bread eaters than the English. In breads moderately rich in fiber the French would have a much higher daily intake of this fiber than the English.

Future Consumption

So we must consider the first great question of the amount of bread that will be consumed in the future. During the early part of the present century the curve has turned downward. Men have done less muscular work and needed fewer calories. They have eaten more refined calories from sugar in the form of candy, ice cream and soft drinks instead of from bread.

Today the average person eats a little less than six ounces or six slices of bread. This consumption of bread is also found in many branches of the armed services. Men in these services tend to reflect their home food habits. They eat about two slices of bread per meal. The ration allowance for the Navy still carries the item of 12 ounces of bread, but the men do not consume this much. Therefore supply officers tend to save on this item and draw more heavily on some other section of the provision list such as that devoted to milk products.

Even if our Nation stabilizes its bread consumption at six ounces per day, the quality of this bread may be of great importance in our national health. Therefore our breads need to be the best that can be produced. In wartime this is especially important because many industrial workers carry sandwiches for lunch.

The argument is often presented that we need pay little attention to the quality of bread especially in our armed forces because the remainder of the diet is so rich in such items as meat. Thus it is

asserted that there is little use in including dry milk solids or soy flour in bread in order to improve the protein. "This viewpoint is probably a serious mistake because there are always individuals who rely heavily upon bread for much of their food. Furthermore meat supplies may fail in emergencies but bread is usually available. For all purposes the bread of the highest quality that can be made without undue cost is the desirable one.

Post-war Bread

When better breads become available in the future, more may be consumed. If the American dietary is built around a liberal amount of high quality bread produced in commercial bakeries, the work of the housewife can be simplified. Her meals can contain fewer items. This means less cookery and less washing of pots and pans.

A good bread spread with fats containing vitamins A and D as well as jam or marmalade rich in vitamin C may be a complete diet for man. This implies that jams, jellies and marmalades will be improved as well as bread. These spreads can be made rich in vitamin C but most of them now contain little.

From our childhood memories most of us recall huge slices of warm bread with melted butter in the middle. We also remember the usual second course which involved the addition of jam or jelly.

The provision of better breads in the future will be certain if the housewives demand them. In the past bread has been selected be-

cause it was soft when punched, because it was cheap, or because a loaf had a large volume. The growing interest in nutrition has made large numbers of buyers aware that bread is bought for its nutritive value and taste. Furthermore the housewives have become aware that the baker can effect savings for her by buying such foods as dry skim milk at wholesale prices.

The incorporation of dry skim milk in bread relieves it from the cost of packaging and passing through the retail channels of the grocery store as a separate item. Furthermore its use is extended to a large number of people without the necessity of teaching new methods of cookery and without coming into competition with whole fresh milk.

Several developments are possible in the production of better breads. In the first place the heavy dark ones made of rye and whole wheat may be improved in keeping qualities and nutritive value. It is commonly asserted that the American public does not like bread made from whole grains. The home economist is said to have failed because she has taught the value of dark breads in vain. Recently the author studied the bread consumption in a large cafeteria where there was free choice of a 30 per cent rye bread, a 50 per cent whole wheat and a white bread. Two-thirds of the bread chosen was white bread and one-third dark breads. None of the breads were above average in quality. The amount of high quality dark breads that would be chosen

by the public remains unknown but much depends upon the bread eating habits formed by the children.

Dark Bread is Favored

In general the nutrition specialist favors dark breads. The history of the science of nutrition teaches over and over, that every decade thinks it has discovered most of the facts about the content of natural food products in such constituents as vitamins and minerals. Each year, however, new discoveries add to the list of vitamins, and to new relationships between them and the functioning of the body. Usually such discoveries encourage the use of products as they occur in nature with a minimum of processing and so-called "purification."

In general whole grain flours retain the maximum amounts of minerals and vitamins as well as protein from the original grain. The major disadvantage is the high content of fiber which is not well tolerated by some people. Furthermore, this fiber may cause some wastage of inorganic elements such as calcium. The national bread of England causes a loss from the body of about a tenth of a gram of calcium daily. This may be important if the calcium intake is a half gram per day but becomes less important above this level. Good breads of the dark varieties can be made with extra calcium which will not only offset this loss but add to the daily supply.

On the other hand, there is little doubt that a sedentary population may benefit by the fiber in its bread.

Inasmuch as the heavy dark breads remain in the stomach longer they give a feeling of fullness to those engaged in strenuous occupations. In time of war there is a considerable advantage in feeding an army such as that of Russia a diet in which the basic food item is a heavy dark bread. The taste for such a bread is not developed overnight but during many years of life, especially in childhood.

In the immediate future the average American will undoubtedly select some type of white bread. He has eaten this as a child. He had been taught to do so by the tremendous advertising programs to sell white flour and white bread. To this typical American bread represents a rather tasteless substance useful for covering with jam or soaking up gravy. Some advances in improving this white bread have been made by increasing its content of three of the water soluble vitamins and iron. These vitamins will probably continue to be used to "enrich" bread unless future evidence indicates they are not satisfactory to the economy of the body when not accompanied by other water soluble vitamins that are found in whole grains before milling.

Further progress will undoubtedly be made in improving the vitamin content of white bread. In time minerals other than iron may be added. Calcium will undoubtedly be the next common addition.

More breads with better quality proteins will undoubtedly be made in the near future. Ordinary wheat flour has the quality of its protein admirably supplemented

by the addition of small percentages of such products as soya flour, dried skimmed milk and dried brewer's yeast.

Better processes for making soya flour are evolving. More dried skimmed milk is being recovered as the appreciation of its high nutritive value increases. The war has stimulated the recovery of brewer's yeast. This is the dried product that results from the fermentation process in the making of beer. The cells in this yeast product are dead so it is to be regarded as a foodstuff rich in vitamins and protein. Since these yeast cells are killed in the process of drying they no longer have the power of producing carbon dioxide and making bread rise like the live yeasts used by the baker and the housewife. There is still considerable confusion between the dead, dry brewer's yeast which is mixed with flour because of its nutritive value and the live yeast employed in the mixture to make bread rise.

Other products that may ultimately find a place in improved bread are the flours made from the germ of wheat and corn after the oil is pressed out. Large volumes of these products are available. Their proteins seem to be good supplements for those of refined wheat flour. In time other products such as flours from cottonseed and peanut meals may be ingredients of bread. Today there is still some question about flour from cottonseed because it has never been freed entirely from the accusation of toxicity. Furthermore a few individuals suffer severe anaphylactic shock from cottonseed proteins.

Public Action Needed

In order to insure better bread two general types of public action are possible. In the first place specifications can be established and made compulsory by Government action. Such specifications need to be devised with great care to make sure that adequate supplies of materials suitable for making the specified bread are available. Furthermore such bread must still maintain its competitive position with other cheap sources of energy such as rice and potatoes as well as other wheat products such as macaroni. In the second place, facilities and methods must be available to Government agencies for checking compliance with specifications. In the past, attempts to improve bread have received serious setbacks both by failure to give adequate study to available supplies of ingredients and also by lack of means of enforcing specifications.

Possibly a better means of insuring the production of a better bread is through the education of the housewife to demand it. The chief difficulty in attempting such educational programs is that funds and facilities for teaching the housewife as a consumer are usually limited in proportion to the amounts that can be spent in advertising.

For many years New York State has attempted to teach the housewife how to bake better bread. This has been done as part of the activities of the state extension service. For the most part this teaching has reached only the rural areas.

In 1943 as a result of the growing appreciation of the importance

of food in winning the war, many new activities were started to make the most of the food supply in New York State. With the backing of the New York State Federation of Home Bureaus, a special committee was appointed by the late dean of the N. Y. State College of Agriculture, Carl Ladd.

This committee proceeded to develop a formula for bread in the form of an open recipe that any baker might use. This was no innovation since New York farmers had built much of their agricultural program behind open formula feeds for livestock. In other words the farmers have insisted upon knowing the amount of ingredients used in their feeds.

The same concept was now applied to bread, namely that the housewife had the right to know the ingredients of the bread she was giving her family. Many breads had carried the names of ingredients but not the amount of each contained in the bread.

This development of open recipe breads is of major importance to city dwellers since many housewives in the rural areas bake their own bread and because the majority of people in New York State dwell in cities. The open recipe principle seems advantageous to both the housewife and the baker. It may lead also to a greater interest in quality bread and a heavier consumption.

The first open recipe was devised along conservative, practical lines to avoid too wide a deviation from the public taste for established breads as well as from customary baking practices. The recipe issued

for the housewife contained 2 cups of milk, 1-2 cakes of yeast, 3 teaspoons of salt, $2\frac{1}{2}$ tablespoons of sugar, $1\frac{1}{3}$ tablespoons of shortening, 6 cups of enriched flour and 9 tablespoons of high fat soya flour. Twice this amount of soya flour should have been included in the interests of better protein quality in the bread but at the time the recipe was established there was uncertainty about the available supply of this ingredient. The milk level was established in such an amount that the baker would be within the Federal regulations in using 4 per cent of dry skim milk solids.

This bread is now in commercial production. Every loaf carries a statement of the amount of each ingredient. Such a bread program permits integration of teaching in nutrition and commercial baking practices. Both have a common interest.

Summary

In summary we can recognize that the war has made a permanent contribution to human welfare by stimulating a widespread interest in the nutritive value of foods. Many ways of improving bread are available today.

Breads that taste better and have a higher nutritive value can be made.

Breads can be improved by the use of modest amounts of dry skim milk solids, soy flour and other special products.

Dark breads that are familiar to many other nations but strange to most Americans should be given additional consideration.

If breads of higher nutritive value become common on the American market, the housewife may be able to decrease her home cookery since she can decrease the number of dishes served in her meals. Better bread affords one of the best ways of improving our national dietary. The housewife should make use of her increased

knowledge of nutrition by demanding better breads even if they cost more. Breads should carry a printed statement with each loaf indicating the amount of each ingredient per loaf. The educational services should teach the housewife more about better bread. Public agencies should cooperate with bakeries in getting it produced.

Food Behind Bars



Drawing by Nicholas Apgar

PART V

CONSOLIDATED REPORT

NEW YORK STATE

JOINT LEGISLATIVE COMMITTEE ON NUTRITION

Introduction

By Thomas C. Desmond

Chairman, New York State Joint Legislative Committee on Nutrition

HOW MANY of our criminals go astray because of "hidden hunger" no one knows. But new findings of science indicate that sub-clinical malnutrition may be an important factor motivating crimes.

Recognizing that food can be used as an instrument for the rebuilding of men, the Federal Bureau of Prisons requires that each inmate receive a balanced diet. The saboteur, the kidnaper, the murderer, whether he is at San Quentin, Alcatraz or other Federal prison gets meals, rich in essential nutrients.

Coddling? No! The enlightened men entrusted with administering Uncle Sam's penal system know that food can help greatly in making decent citizens of criminals, that a balanced diet is an essential

measure in the rehabilitation of prisoners.

Unfortunately, many of our states and localities have not yet reached Federal standards. Much remains to be done. A wide-scale assay of the nutritional status of criminals before and after imprisonment is needed. The recommended requirement of calories, vitamins and proteins established by the National Research Council should be used as a guide by all prison administrators. In-service training of cooks and stewards needs to be adopted. Strict sanitary regulations must be enforced.

The three following articles presenting a description of nutritional practices in prisons of the United States Government, New York State, and New York City, will we hope prove of value to all prison administrators.

Feeding Federal Prisoners

By G. A. Foss

Chief Steward, Bureau of Prisons, United States Department of Justice

IN 24 Federal prisons 97 culinary experts care for the food requirements of the 20,000 prisoners which in normal times people these institutions.

The Bureau of Prisons places great stress on the value of food in institution life. Prisoners who never visited a doctor or paid second thought to what they ate and how it looked, become very health conscious and food conscious when they are confined.

I have heard of an inmate who gauged his length of sentence by the food he was to get by saying he had "seven bananas and three days to go." Bananas were served every Thursday in that institution. One of the chief concerns of prisoners, after that of when they will be released, is what they will have for the next meal. Evidence of this is that in those institutions where the men file past the dining hall door as they go to and from work, it is necessary to reverse the menu boards so the line will not move too slowly. Many fights on the ball field can be traced back to a bad dinner.

In addition to recognizing the morale effect of good food, there is also the contribution which good food makes to good health. Good food is properly prepared food, and this means that an effort has been made to furnish to the prisoner all the food values with which the food was originally endowed and with as little waste as possible.

The man who goes to prison suffers devastating effects on his eating habits. Things do not "taste good" to him because they are not cooked, flavored, or seasoned to suit his taste. He may get more food of better quality than he had before entering the institution, but he craves the food to which he is accustomed. For this reason the culinary service, which is responsible for the planning, preparation, and serving of food, is considered one of the most important services in any institution.

In planning mass feeding for a large group, the steward who administers the culinary service must recognize and cope with diverse food habits, religious food practices, sectional food differences, and the vagaries of the individual. The food must be prepared so that it satisfies nutritional needs as well as appetite. The best prepared food benefits no one unless it is eaten. The best planned meal, and even food prepared perfectly, can be served in such manner as to make it unappetizing and unpleasant. That is the reason why so much stress in institutional planning is placed upon cleanliness, sanitation, and the careful training of prisoners. And of course the steward must prepare his meals within a poundage allowance.

In any well managed institution the culinary service must function without interfering with any other activity, and the time schedule must

be observed faithfully. Meals must be ready and served on the minute, and the dining room equipment must be cleared in readiness for the next meal without any delay. To do this the civilian staff must be well trained, and in turn must train all the prisoners handling food. It is essential that the staff know how to prepare and serve meals, but it is also important that each member of the staff be qualified to instruct the prisoners who work in the culinary service.

The steward in Federal prisons does not function in the usual meaning of that word since he is not a purchasing agent and is not charged with the responsibilities of a storekeeper. He is not held to a cost allowance. As an important staff member he is responsible to the warden or associate warden for the proper discharge of his duties. He has full control over the operations of all persons assigned to perform any duties in the culinary service, planning of menus, preparing and serving of meals, and care of equipment. In the Federal Prison System a steward is not responsible for procurement of supplies, but as a staff member he participates in making the plans for procurement of food.

The food service for each institution is headed up by a steward of grade consistent with the size of the institution. He is assisted by a civilian staff. All culinary positions require supervisory ability on the part of the culinary officer since all work is done by the prisoners. Prisoners are not given charge of other prisoners. Culinary orders, rules, or instructions issue from the steward's office.

The Importance of Planning

The secret of success for the culinary service is careful planning, and in the Federal Prison System this planning is referred to as (a) long range, (b) quarterly, (c) monthly, and (d) for 10-day periods.

In long range planning, studies are undertaken for the purpose of discovering better work methods. New foods, new food combinations, better cooking techniques, modernization of plant, and procurement of new and improved equipment, are considered.

Quarterly planning is of extreme importance as the technique determining what shall be used in the way of food supplies. In the Federal Prison System this planning is accomplished by the conference method, which will be discussed later. Quarterly planning determines (1) what food supplies the steward must use throughout the quarter, (2) what food supplies shall be grown on the farm, and (3) what food supplies are to be procured by the chief clerk.

Monthly planning for seasonal foods relieves the steward of the necessity of forecasting his needs for perishable items long in advance of the time when they are to be used. It also allows him to utilize foods in season to best advantage. Fish and poultry are usually included as a part of monthly planning. Another very sound reason for observing monthly planning is the fact that an appreciable increase in the number of prisoners imposes upon the steward the necessity for re-studying his quarterly plans to make the best

use of food supplies already procured before he undertakes to recommend purchase of additional supplies. Furthermore, the estimates from the farm manager are subject to change in the event of failure of crops.

Menu¹ planning for 10-day periods is an important job because through this method the steward is able to make good use of supplies and avoid too much repetition. All too frequently menus are prone to repeat themselves, and prisoners will come to know that "Thursday is here because we have hot cakes for breakfast." Ten-day planning includes at least one Sunday, and unless a deliberate attempt is made to serve certain foods on certain days, repetition is less likely to occur. An interested steward scans magazines, newspapers, and recipe books for information on new ways to prepare food, and good menu planning is one of the best gauges of his ability.

Subsistence Allotments

Food allotments should always be made on the basis of the number of persons to be subsisted. Two methods of providing funds are available. One is to plan a monetary value as the diet allowance—so many cents per day—and the other is to allow a certain number of pounds of food for each prisoner per day.

Providing a certain number of dollars to feed a group of men has many disadvantages. It does not guarantee an adequate diet. It puts the institution at the mercy of the market and when prices rise, food

becomes scarce and trouble may occur in the institution. If allotments are made for a period of some months, it is very likely the men will live well during the first part of the allotment period, and eat beans and rice at its close. Where no accounting except an accounting for funds is demanded, unscrupulous officials might line their pockets at the expense of the prisoners by serving insufficient food. The more unattractive the food, the less would be eaten and the more money saved, so there is no incentive to prepare attractive and palatable menu items if money is the only consideration.

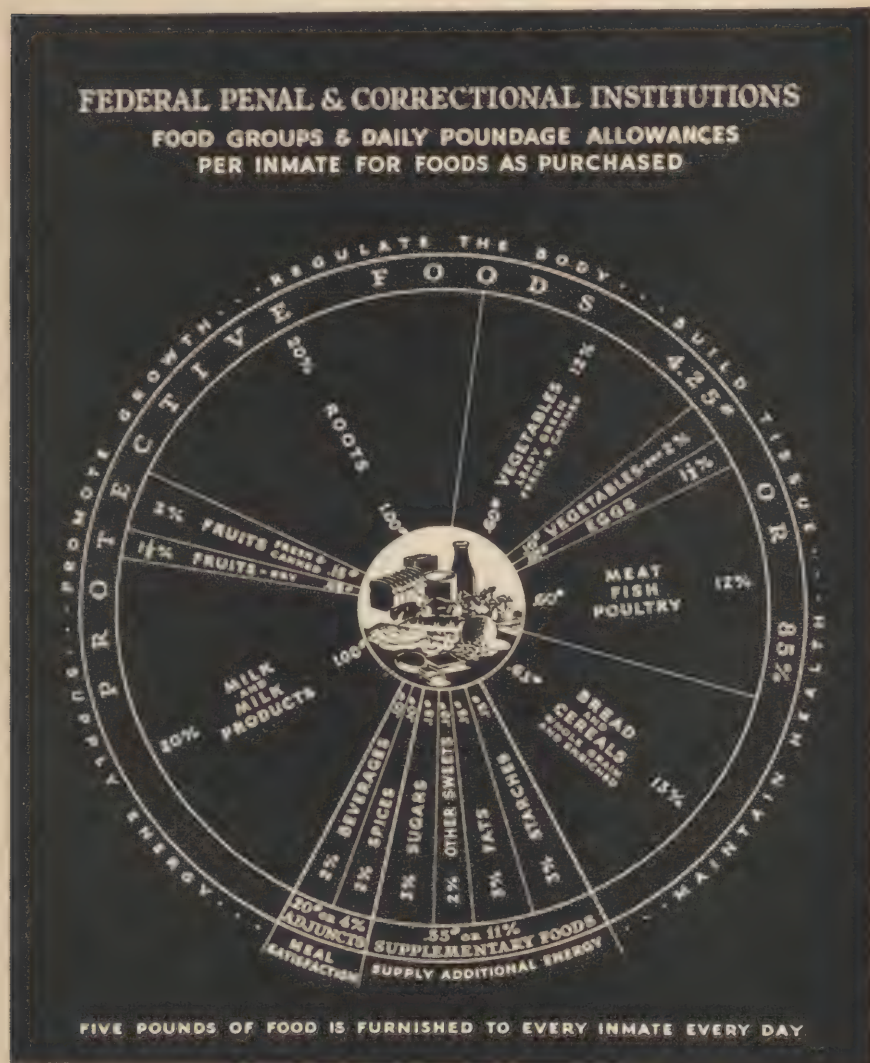
A more satisfactory method for providing funds to operate an institution is to set up a food allowance on a per man per day basis, and to break this allowance down into food details which will provide an adequate diet. Once this is done, it is possible to figure the approximate cost of such a ration by assigning to each detail the food most used in that detail and calling it the "type food." Thus, if beef is the most used meat and each man is to receive 0.6 of a pound of meat per day, 0.6 multiplied by the price of one pound of beef would be the amount of money which could be spent per man per day for meat. Apply this to each detail and add the results and you will have the approximate daily cost of food per man per day. This system of food accounting is in use in the Bureau of Prisons.

To set up such a system it is first necessary to arrive at the dietary allowances for food on the basis of

¹ See Appendix C.

nutrition. The best yardstick is the Recommended Dietary Allowances of the National Research Council. Take their allowance and figure out

the foods necessary to supply this standard of nutrition and you have a balanced diet for foods as purchased.



Operating under a Balanced Ration

Nutritionists will arrive at different results, but one such balanced diet which will meet all

requirements of the National Research Council is as follows:

With minor changes the above diet has been in effect in the Federal Prison Service since 1934.

Food Detail Number	Detail Name	Daily Allowance in Pounds
01.....	Meats .....	.60
02.....	Fats .....	.15
03.....	Starches .....	.80
04.....	Dairy Products	1.00
05.....	Eggs .....	.07
06.....	Sugar .....	.15
07.....	Other Sweets .....	.10
08.....	Beverages .....	.10
09.....	Root Vegetables	1.00
10.....	Leafy, Green and Yellow Vegetables.....	.60
11.....	Dried Vegetables .....	.10
12.....	Fresh and Canned Fruits.....	.15
13.....	Dried Fruits .....	.08
14.....	Adjuncts .....	.10
Total.....		<u>5.00</u>

Nearly every year the total poundage has been very close to the allowance and at the end of the fiscal year the poundage for all 24 institutions usually averages slightly under the five pounds, or about 4.9 pounds. Variance between the details would be greater, due to farm operations, substitutions of certain foods, as milk for meat or eggs, and beans for potatoes, but in the main, each detail is closely followed.

Another way of expressing this ration is by means of the food wheel (See Chart I) which will show that each prisoner receives daily 4.25 pounds or 85 per cent of protective foods; .55 pounds or 11 per cent of supplementary foods; and .20 pounds or 4 per cent of adjuncts.

In the Bureau of Prisons costs are not the concern of the steward. Costs reflect purchasing methods and so fall within the province of the chief clerk or business manager. The steward is concerned with serving the poundage provided by the balanced ration. To see what a reasonable cost for mess

operation would be, the chief clerk uses the method of assigning type foods and figuring the cost as previously outlined. Cost of a typical ration for one month follows:

It must be remembered that figuring a ration allowance cost, as above indicated, makes no provision for any incidental or maintenance expenses, neither does it include salaries of employees in the culinary department. It should be considered as a guide only, not as a hard and fast allowance which cannot be exceeded under any circumstances.

We cannot emphasize too strongly that this is only one type of balanced ration. Numerous combinations of foods can be assembled which would be balanced. It might even be desirable to have more than 14 food details and it would be possible to have less than 14. If limited funds prevent the use of this balanced ration, it would be possible to calculate a ration as nearly adequate as possible which would fall within the allowed budget.

Food Detail Number	Detail Type Food	Weight in pounds	Price per pound	Estimated cost
01.....	Beef .....	.60	.1997	.1198
02.....	Margarine .....	.15	.1600	.0240
03.....	Flour, wheat .....	.80	.0350	.0280
04.....	Milk, fresh	1.00	.0388	.0388
05.....	Eggs, fresh .....	.07	.0349	.0244
06.....	Sugar, granulated .....	.15	.05859	.0088
07.....	Corn Syrup .....	.10	.0381	.0038
08.....	Coffee .....	.10	.1653	.0165
09.....	Potatoes	1.00	.0236	.0236
10.....	Tomatoes, canned .....	.60	.0820	.0492
11.....	Beans, Navy .....	.10	.0673	.0067
12.....	Apples, canned .....	.15	.0649	.0097
13.....	Prunes .....	.08	.1380	.0110
14.....	Salt .....	.10	.0067	.0007
		<u>5.00</u>		<u>.3650</u>

Culinary Record Keeping

To set up a poundage control certain forms are necessary. These forms are 10 in number as follows:

Culinary Form Number	Title
1...	Breakfast Menu
2...	Dinner-Supper Menu
3...	Menu Worksheet—Inmate
4...	Menu Worksheet—Officers
5...	Daily Distribution Sheet
6...	Daily Poundage Sheet
7...	Cook's Formula Sheet
8...	Baker's Formula Sheet
9...	Inmate Record
10...	Quarterly Requisition

Food Waste

In the average home we do not think twice before discarding bread crusts. Potato parings may be very thick. And meat fat or suet renderings are cast away. Only in wartime is provision made for the collection of these waste fats. The quantity is small and the difference between saving these items and disposing of them will make little change in the home food budget. It is common prac-

tice in the home to put into the refrigerator some leftovers to be disposed of tomorrow, and the American ice box has been called the stepping stone to the garbage can.

The institutional steward must prepare just enough food for the meal he is serving. To do this he makes the best possible estimate of consumption, taking into account the popularity of the dish, the number of persons served, the relation of the dish in question to the rest of the meal, the type of work the prisoners are doing, and the weather. If, after making all these allowances, some food is still returned to the kitchen after the meal, it is immediately decided what disposition is to be made of it. If it cannot be used to advantage, it is weighed and thrown out at once. Only food for a definite future use finds its way into the refrigerators. If valueless foods are stored in refrigerated spaces, not only the food is lost, but the space it took up and the cost of refrigeration have been wasted.

Food Preparation

Preparation includes all processes through which food passes up to the time it is placed on the serving station. It includes use of formulas to prepare uniform menu items; care in preparation to conserve nutritive value of the food; avoidance of excessive trimming losses in preparing food; prevention of pilfering, theft, or hand-outs; eye appeal by use of individual portions, garnishes, toast, and other devices; having all menu items ready on time but not too far ahead of time; and making all food as nearly comparable to a reputable commercial feeding operation as possible.

The daily volume of food required to feed men in one of the larger institutions in the Federal Prison System is considerable. A noon meal menu might call for:

Roast Beef	Gravy
Corn on the Cob	
Franconia Potatoes	Cole Slaw
Apple Pie	
Bread	Margarine
Coffee	

To serve this meal to two thousand men would require:

The equivalent of two steers
60 gallons of gravy
4000 ears of corn
12 bags of potatoes (100 lbs. to the bag)
500 pounds of cabbage
10 gallons of salad dressing
340 pies containing 20 bushels of apples
45 pounds of margarine
300 leaves of bread
80 pounds of coffee

All services are coordinated so that each of the above items becomes available in the institution kitchen on the day in which it is to be prepared for this meal.

Food Service

Food service is the actual serving of the food by inmate waiters. It includes attractive appearance and arrangement of the serving station or service; waiters clean, in uniform, and all dressed alike, wearing gloves if necessary; use of proper serving utensil for each menu item; proper table service in pouring coffee and serving bread; quick service as the line moves past the serving stations; control of portions; and proper place settings on the table. Use of paper napkins is encouraged as are draperies for windows, and other niceties which go to make a meal an event. The custodial personnel selected to direct the flow of traffic and to maintain order are experienced in the supervision of prisoners.

The institution dining hall must be a bright and cheerful place. Floors should be of tile, scrubbed after every meal, and walls attractively finished in harmonizing colors. In many institutions murals or painting done by prisoners as a part of the institutional art project help provide the right atmosphere.

Every institution has a menu board which is changed for each meal. Tables are set up with knife, fork, spoon, and paper napkin. On occasion table cloths are used. Cups, certain salads, some desserts, and sometimes even flowers are placed on the table. The dining halls are

decorated for holidays. The prisoner's first visual contact with the meal is the dining hall. If what he sees is pleasing to the eye, he is well on the way to enjoying the whole meal.

The meals are served in stainless steel compartment trays. Food is placed in the different compartments of the tray so that it never runs together, each item of food being in a separate compartment. Occasionally ice cream is served in paper cups, rock-hard, so that it does not melt while a prisoner is eating the rest of his meal. Bread may be obtained at the serving station or on the table, and bread is usually passed by white gloved waiters. Beverages are poured at the table to prevent spilling.

At the serving stations hot foods are served hot, and cold foods cold. All prisoners receive equal portions of the food served. Proper utensils are used to serve each item; a disher for mashed potatoes, an offset spatula for steaks or chops, slotted or perforated spoons for watery vegetables, and the like. When a pan is emptied it is removed to a back bar and a full pan is put in its place. Empty containers are kept covered; spilled food is immediately wiped up. No rags or unsightly containers are in view. Food is served with dispatch and as quietly as possible.

Cleaning operations are not begun until the men have finished eating, and no one is required to scrape trays, or to gather them up after the meal. This is a part of the waiter's job.

It might seem that what is desirable in a commercial cafeteria has no place in a prison. On the con-

trary, an attractive dining hall, neat service, and appetizing meals, are of immense importance in institutional management. An interesting room, and a gaily colored table cloth make mediocre food taste good, and good food taste better. **Eye appeal, whenever it can be accomplished through the ingenuity of the steward, is money in the pocket of the taxpayer because it improves morale, helps the treatment program, and is a big factor in the prevention of waste.**

Food Sanitation

In an institution sanitation is extremely important. The culinary units in the Federal Prison System are inspected weekly by the warden, the chief medical officer, and the sanitary supervisor, periodically by the United States Public Health Service, and almost daily by the steward himself. Every possible precaution is taken to provide sanitary food units, because an epidemic of food poisoning would not only cause suffering on the part of prisoners for whose protection the Service is responsible, but might cost the Government thousands of dollars.

In making an inspection the steward uses a check sheet. This check sheet lists every room and every piece of equipment in the department which the steward must check for cleanliness and operation. If he is careful in the use of this check sheet, and corrects defects as they are discovered, he has nothing to fear from any other inspection which is made.

Cleanliness in working and eating spaces is maintained by lavish

use of soap and water, and by hard work. It is not obtained merely by the use of disinfectants. In other words, you do not cover up the dirt by changing the smell of the place. The cleanliness of a well-scrubbed, airy eating place is one of its finest assets.

Dishwashing is a sterilizing process. Trays, cups, bowls, and pitchers are first washed, then put through a dishwasher containing a detergent solution and a sterilizing tank. They are dried by placing trays in racks so that air circulates between the trays. Towels are not used in dishwashing because they are unsanitary.

No place can be clean unless the equipment used for cleaning is itself kept as nearly sterile as possible. Mops must be washed and aired; mopping tanks flushed and cleaned inside and out; and dishwashers taken apart and all screens cleared of debris to allow for proper circulation of the cleaning solution. Clean plates never come out of a dirty machine.

Special Services

The culinary service also utilizes its facilities to supply the chaplain with his communion requirements.

It prepares lunches for those who are working on projects at a distance too great to bring the prisoners back into the main institution for their meal. These may be sandwiches or hot meals.

Food for men held in isolation is also served from the main kitchen on trays carried directly to the cells. **Three meals daily are always allowed, and bread and water alone are never used. Prisoners in**

segregation are fed an unseasoned and fairly monotonous but adequate diet, consisting of 2100 calories of food per day, and containing any food except meat, eggs, or dessert. The nature of this diet is such that prisoners would rather have bread and water, since the bulky foods furnished serve only to put a keen edge on their appetite and keep them always hungry, while it is possible to adjust the stomach to bread and water.

Operation of the staff dining room is also a function of the culinary service. An effort is made to serve an attractive and palatable meal on the salary deductions available. A charge for maintenance is a part of these deductions which are at the rate of \$5 per meal per month, with no allowances for meals missed or leave taken. Cards are not transferable, and guests must be provided with a cash meal ticket which costs 35 cents per meal.

Culinary Personnel

To operate a culinary service such as outlined, it is necessary to staff each culinary department with qualified, intelligent personnel, and to conduct a training program designed to qualify men in the lower grades for promotion to the jobs ahead so they may be offered these promotions when vacancies occur. The culinary positions in the Federal Prison Service have a basic annual salary range of from \$2,040 to \$3,800 and include junior cook, senior cook, junior steward, senior steward, principal steward, and chief steward.

The junior cook position is a trainee position and is used to qualify men who have had limited culinary training and who are considered senior cook material. This position makes it possible for qualified custodial officers to enter the culinary service at no change in salary or grade. If they pass a practical performance test on cooking and baking, they may remain in this junior cook status until such time as they have acquired the skills and technique comparable to those of a senior cook, at which time they may be promoted to that grade without further tests or examination. This position might also be held by a cook who was deemed too young or inexperienced to fulfill the duties of a senior cook, but in no case is it considered as a permanent position.

Senior cooks are assistants to the head of a culinary unit, or may be the head of such unit in a small institution or camp.

The junior steward is the assistant to the head of the culinary unit of a larger institution, or the head of that unit in an institution of from 300 to 600 prisoners.

Institutions with a population of from 600 to 1,000 have a senior steward in charge of their culinary department, or a senior steward might be second to the head of one of the largest institutions.

The principal steward acts as head of the culinary unit in the largest institutions and has at least a senior and a junior steward under his supervision.

The chief steward has his headquarters in the Bureau of Prisons in Washington and maintains central records for all culinary units.

He makes occasional field trips to the institutions at which time discussions of culinary problems are conducted with the warden, steward, and others in the institution.

The civilian culinary staff in institutions up to 300 population consists of two men. Institutions of from 300 to 600 population rate 3 to 4 men; 600 to 1,000 prisoners require 4 to 5 men; and the larger institutions require from 5 to 8 men. The layout of the physical plant and the number of meals served, determine to a large extent the culinary staff necessary to operate the institution. For instance, an institution which operates an industry 24 hours daily, serves many more meals than one which operates only a day shift.

A man can attain the grade of senior cook within the institution but before he can advance further, he must attend a central training school which is held in Washington, D. C., at the National Training School for Boys. By the time a man has attained the grade of senior cook, it is usually apparent whether or not he has the ability to go forward and warrants the expense involved in giving him the necessary training which will prepare him for positions in the advanced grades.

This training course is of four weeks' duration and is conducted by the chief steward. Practical tests, classwork, and discussions on cooking, baking and nutrition are included. The men learn Bureau culinary policies, preparation of menus, the training of others, and the preparation of the various culinary forms and how to use them.

Satisfactory completion of this course is no guarantee that the men will be promoted, but they are then in line for promotion when the opportunity presents itself. Worthy men are often transferred to some other institution to fill a vacancy that exists, if such transfer represents a promotion for them.

In addition to the field contacts which the Chief Steward maintains, there is a monthly publication known as "The Bulletin Board", a section of which "The Mixing Bowl" is devoted to culinary problems and discussions between stewards. Other media for the transfer of information to the field are memoranda and bulletins in which stewards are informed of Bureau policies, given instruction or suggestions, or which forward other information and materials pertinent to the operation of the culinary department.¹

Inmate Training

Prisoners are assigned to the culinary department as needed by the steward. An effort is made to assign men who might develop into cooks or bakers, and in no case is the culinary department consider-

ed as a dumping ground for institution misfits. The steward is given his fair share of problem cases, and in certain sections of the unit it is possible to use cripples an old men, but overstaffing is avoided. If men are to be taught useful work habits, it is not desirable to have two men available for each job to be done.

Men assigned by the Classification Committee as "Trainee Cook" or "Trainee Baker" are given a course in cooking or baking beginning with cleaning, scrubbing and dishwashing, and working up to officers' cook or baker. This course is conducted by any steward or cook who works with the man by giving an informal, on-the-job sort of training. Results of good training are reflected in the pride of accomplishment which a well-trained prisoner cook or baker displays in his daily work with foods, and the prisoner who leaves the institution and finds employment in the profession as a cook or baker is a source of pride to the steward who trained him. A few such institution-trained cooks who have been able to take their place in the community as responsible citizens justifies to the steward all the little inconveniences and petty annoyances with which he daily contends.

¹ See Appendix B.

A properly fed stomach sometimes is better than a guard's stick as an instrument of rehabilitation.

Food in New York State Prisons

By Albert J. Abrams

Director of Research, New York State Joint Legislative Committee on Nutrition

AT A COST of about 10 cents a meal, the New York State Department of Correction, one of the largest purchasers of food in the State, prepares in its 14 institutions approximately 17,500,000 meals a year.

Appraisal of diets should be tempered by realization that the food allowance granted to prisons is relatively low.

Investigation of a cross-section of our State prisons and reformatories reveals:

1. Prison diets are simple and filling but fall short of nutritional adequacy in several respects;

2. Food waste could be reduced by employment of a nutritionist;

3. Some prison kitchens, food and equipment are not as clean as they should be;

4. Not a single prison has a trained dietician or nutritionist on its staff;

5. State food inspectors do not have the authority to inspect State prisons.

The small food allowance granted to prisons has made the task of prison authorities most difficult. Wardens have indicated an enlightened willingness to take advantage of any aid that food experts may provide.

Nutrition in Prisons

Menus in State prisons are prepared by institution stewards in

conjunction with kitchen keepers and cooks, with the approval of the warden or superintendent. Prison food officials, usually men experienced in the practical aspects of institutional kitchen procedure, often lack training in modern dietetics.

The State Mental Hygiene Department has established a minimum daily ration allowance of basic foods for asylum patients. The Federal Prison Bureau has set up minimum daily vitamin and calory standards for Federal prisoners. The State Department of Correction has set up no similar guide for its prison diets.

Although there is no standard State prison meal, the following example is fairly typical of the meals being served:

Breakfast: cereal, bread and coffee.

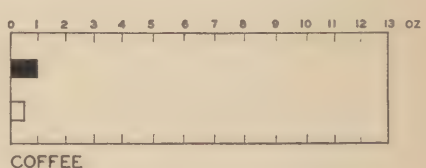
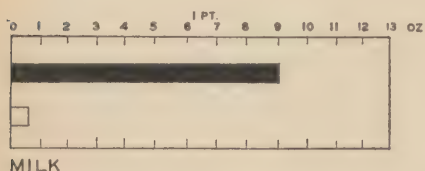
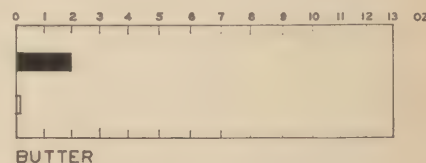
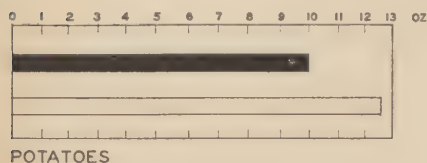
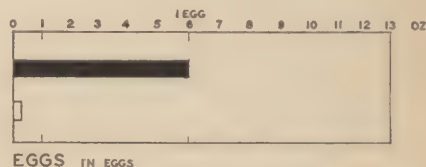
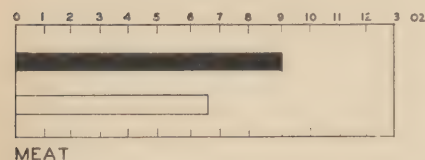
Dinner: meat, one or two vegetables, bread and coffee.

Supper: soup, bread, coffee and cake.

Prison meals are simple, inexpensive and filling. But analysis indicates they are deficient in such essential nutrients as A, C and D.

Long before current shortage and black market prices complicated the problem, oranges, grapefruit, lemons, tomatoes and other sources of vitamin C, essential to prevent sponge gums, stomach dis-

Daily Allowance of State Mental Hygiene Department Compared with That of Food Served to Prisoners



DAILY RATION IN MENTAL INSTITUTIONS
FOOD SERVED TO ATTICA PRISONERS



orders and scurvy, were conspicuously absent from prison menus.

Prisoners receive an adequate amount of protein and carbohydrates, but do not get as much milk or leafy vegetables as they need.

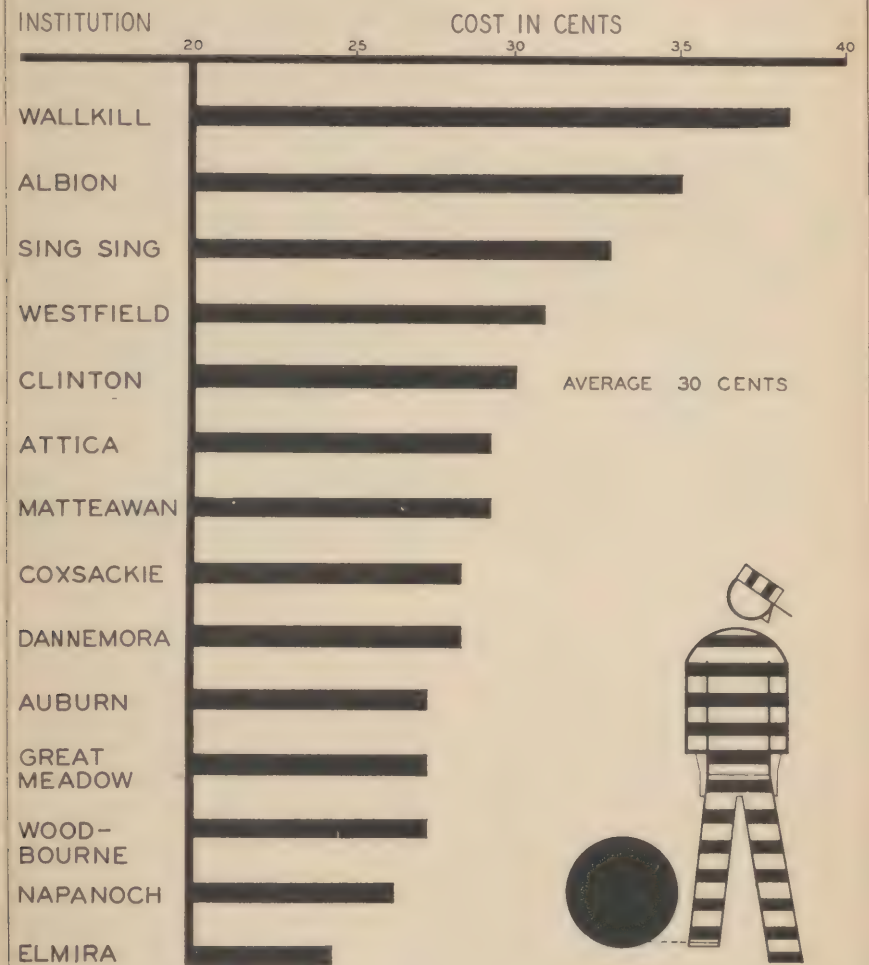
Eggs have long been a rarity in prison menus. When two boiled eggs and an orange were served one Sunday morning at Sing Sing, a check-up by the warden revealed that two hundred more breakfasts had been served than there were prisoners. The inmates had been doubling up!

Prisons have been as hard hit as Mrs. Average Housewife by shortages of various foods. Some prison cooks have exercised ingenuity, using a variety of substitutes.

The one fact that becomes most apparent in studying the prison's nutritional problems is the urgent need for appointment of a nutritionist in the State Department of Correction. Food costs in prisons vary widely, ranging from 24 cents a day per prisoner in the Elmira Reformatory to 38 cents at Wallkill. The Temporary Commission on State Economy pointed out that the variation in costs indicates need for central supervision of diets.¹

¹ See Appendix E.

PER CAPITA COST OF PRISON FOOD PER DIEM



The appointment of a nutritionist would also be helpful in advising prison cooks in proper methods of conserving vitamins in foods; in setting up minimum daily ration allowances; in preparing sample menus; and in eliminating

inefficient kitchen practices. A large amount of food would be saved from spoilage.

The In-Service Training Division of the State Education Department should hold an annual school for prison kitchen keepers,



Bake shop of State Vocational Institution, West Coxsackie, New York

cooks and other food handlers, so that they may learn the latest methods in the handling, storage and preparation of foods.

Bread in prisons should be baked according to the "open formula" recommended by the State Emergency Food Commission. It should contain soybean flour.

Low-cost dried brewer's yeast should be added to prison food to assure that prisoners get enough of the vitamin B complex; this is particularly important in time of food shortages.

Sing Sing is the only prison in the United States known to permit prisoners who can afford to buy their own food to purchase and cook their own meals. A large bat-

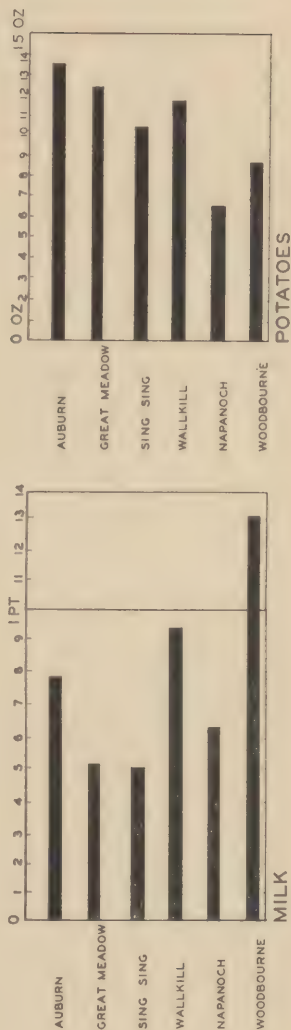
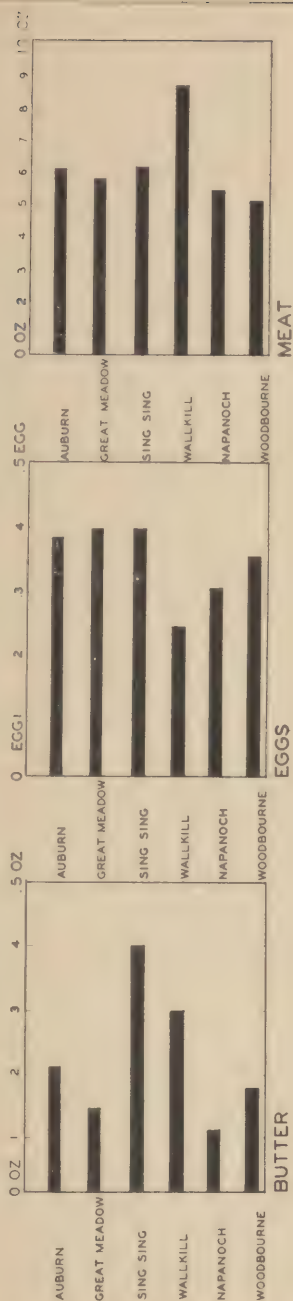
tery of cooking stoves is provided for prisoners who can buy their own food. This class system privilege violates sound procedure. Many experts agree it should be terminated as soon as practicable.

Food Sanitation

Sanitary conditions in prisons vary widely. For example, at Sing Sing, conditions were found to be poor; at Matteawan and Great Meadow, quite good; and at Coxsackie, only fair.

At Sing Sing, our Committee staff found food with marked worm infestation. Weevils were found wherever flour was stored; roaches were found in food lockers and milling machines; maggots covered

DAILY PER CAPITA CONSUMPTION OF VARIOUS FOODS FOR THE YEAR 1942 - 43





Mess hall at Great Meadow Prison

barrels of sauerkraut; cereal bags were playgrounds for mice; milk was kept at an improper temperature; some cans of food were found to be spoiled and leaking.

The roach problem is serious in almost all prisons, except Matteawan which employs a professional exterminator to make monthly visits. At Great Meadow, the kitchen, butcher shop, bakery and equipment were neat and clean, but roaches were prevalent in lockers used by inmates for storing their clothing in a room used for baked goods.

Matteawan was clean, except for weevils found in the flour sifter and violations of the State slaughterhouse regulations. At Coxsackie, mops and clean equipment were stored in the vegetable cooler; weevils were found in some rice and hominy; control over roach powder used in the kitchen was needed.

Prison slaughterhouses are violating many of the sanitary regulations imposed by the State on private slaughterers. Our prison

slaughterhouses should abide by the State regulations.

The State employs numerous expert food inspectors who examine food stores, processing plants, bakeries and restaurants. These men should be given authority by administrative rule to inspect State prisons periodically.

Our Committee has devised, with the aid of Mr. Rex D. Stillwell, a State food inspector, a check-list¹ of 126 items to assist wardens in appraising accurately sanitary conditions in prison kitchens.

Supervising officials and food handlers in correctional institutions should be informed as to the necessity for careful handling and storing of poisonous roach powders, the cause of many deaths in an Oregon institution recently.

Inspection by State food experts plus the use of a little more "elbow grease" by prison employees and inmates will prove of enormous help in ending the unsatisfactory conditions now existing in some prisons.

¹ See Appendix D.

Feeding New York City Prisoners

By **Peter F. Amoroso, M.D.**

Commissioner, New York City Department of Correction

THE POSSIBILITY of inmate rehabilitation as recognized in our institutions made prisoner feeding apparent as an important contributory factor in this vast program.

Prior to ten years ago, very little attention was paid to this vitally necessary aspect of prison life, as typified by a menu of this period:

Sunday

Breakfast: Oatmeal and syrup
Bread and coffee
Dinner: Corned beef and cabbage, potatoes, bread and water
Supper: Bread and coffee

Monday to Saturday Inclusive

Breakfast: Bread and coffee
Dinner: Soup meat, bread and water
Supper: Bread and coffee

Today the picture is widely different. The responsibility of feeding the thousands of unfortunates who pass through the institutions of this department is vested in a Departmental Steward whose staff consists of an assistant and a dietitian, selected according to the qualifications set by the Municipal Civil Service Commission. This bureau is centrally located in the main office of the Department of Correction and from this point

radiate the many divisions coming under its supervision.

The Departmental Steward is responsible for the ordering of all foods required in the preparation of the meals; requisitions from the various institutions are submitted on a monthly basis and quantities are determined according to the census in each prison. A careful study of current market conditions plays an important part in menu construction, and the members of this bureau keep in constant touch with the seasonal trends.

Food purchasing is handled directly by the Department of Purchase of the City of New York which in conjunction with the Department of Correction have established certain standards and specifications which are accepted by the food inspectors of the Department of Finance who are charged with the responsibility of certifying that all foods received comply with local, food and health regulations. The Steward's Bureau maintains a diet kitchen laboratory where new items of food are constantly checked to determine whether or not they are adaptable to our type of feeding. New dishes and combinations are tested and when found practical are included in the regular menus prepared for all institutions.

In comparison to the aforementioned menu, the following is one typical of our current food service:

Sunday

Breakfast: Stewed prunes, hominy with milk, bread, coffee.

Dinner: Tomato-rice soup, roast beef, mashed turnips, potatoes, bread.

Supper: Bologna, potato salad, beet relish, apple sauce, bread, coffee.

Monday

Breakfast: Stewed pears, whole-wheat cereal with milk, bread, coffee.

Dinner: Barley soup, hamburger steak, potatoes, carrots, bread.

Supper: Baked lima beans with pork, cabbage salad, lemon gelatine, bread, coffee.

Tuesday

Breakfast: Apple sauce, rolled oats with milk, bread, coffee.

Dinner: Vegetable soup, codfish cakes, potatoes, string beans, bread.

Supper: Diced beef and vegetables, cole slaw, chocolate pudding, bread, coffee.

Wednesday

Breakfast: Stewed figs and raisins, cornflakes and milk, bread, coffee.

Dinner: Split pea soup, fried liver, onion gravy, stewed corn, potato, bread.

Supper: Macaroni and meat sauce, carrot-cabbage salad, cake, bread, coffee.

Thursday

Breakfast: Mixed fruit, farina with milk, bread, coffee.

Dinner: Lentil soup, frankfurters, sauerkraut, potatoes, bread.

Supper: Spanish rice, cole slaw, applesauce, bread, coffee.

Friday

Breakfast: Apple butter, cream of wheat with milk, bread, coffee.

Dinner: Brown onion soup, fresh fish, spinach, potatoes, bread.

Supper: Boiled eggs, French fried potatoes, bread pudding, bread, coffee.

Saturday

Breakfast: Stewed pears, rolled oats with milk, bread, coffee.

Dinner: Celery soup, lamb stew with vegetables, bread.

Supper: Baked navy beans with pork, pickled beets, strawberry gelatine, bread, coffee.

Federal System Used

The Federal system of food rationing is used as the basis of all menu preparations, and it has been found most acceptable for institutional feeding. This Federal system is the result of an extensive study made by the Department of Agriculture of the Federal Bureau of Prisons. Because of the fact that the majority of inmates are engaged in productive activities, they require substantial meals and for this reason it has been found best to average about twenty-five hundred calories per day for each prisoner. The average cost of an inmate's meal for one day is .279 cents. The cost of feeding, under the present conditions, is largely determined by the fact that certain items formerly used are no longer

available; it has become exceedingly difficult to obtain a number of food items, thereby substitution is necessary in almost all classes of food.

In each of the institutions, there is a staff of full time paid cooks who have direct supervision over the preparation of all food and the serving of all meals. They are assisted in their duties by inmates who have been selected by the Classification Board on the basis of previous experience. Naturally, experience in kitchen work is an important factor as it facilitates the training in institutional procedure; a correlation is sought between previous skills and the type of work available to assure a transfer of training. In many instances, inmates who have had very little or no previous kitchen experience are taught the fundamentals of food preparation. Therefore, the cooks not only supervise and actually prepare the meals but they assist in the rehabilitation by teaching inmates a trade that will enable them to be better suited for their adjustment when released. All employees and inmates, before being assigned to kitchen duties, are subject to a thorough medical and physical examination to assure freedom from disease and afflictions that might render them a source of danger in handling food.

All food served to inmates is prepared in one central kitchen; this central control obviously reduces the problem of waste and also tends to maintain the morale by eliminating favoritism; at no time are inmates permitted to prepare their own meals in their respective cells.

In most institutions, the cafeteria method of serving food has been found most effective. This system facilitates the serving of hot foods to the largest number of inmates in the shortest possible time. Service from the cafeteria counter is under the direct supervision of a civilian cook and a custodial officer.

The institutional kitchens, mess-halls and storerooms are open to inspection by Health Department inspectors at any and all times. Each of the institutions has a sanitation committee who is responsible for maximum sanitary standards at all times. Equipment used in the preparation and serving of food must be kept in a high degree of cleanliness and ready for instant usage.

Food Conservation

A recent innovation started in all of our institutions is the careful record required of each cook showing the exact amount of garbage or left over food immediately upon the completion of each meal. This report is prepared after all left over foods are carefully weighed and checked against the total census of the institution, thereby furnishing the department with a clear picture of actual consumption. This report has indicated consistently that our waste is at a minimum and substantiates our efforts in planning satisfactory and adequate meals for those "behind bars."

In conclusion, feeding of the prisoners of the City of New York is one of the most important functions of the Department of Correction.

APPENDIX A

RESOLUTION CONTINUING THE NEW YORK STATE JOINT LEGISLATIVE COMMITTEE ON NUTRITION

FEBRUARY 10, 1944

BY MR. DESMOND:

WHEREAS, The joint legislative committee to study nutritional problems, created by resolution adopted April sixteen, nineteen hundred forty-two, and continued by resolution adopted by the nineteen hundred forty-three legislature, has been actively engaged in studying and investigating the problems relating to nutritional deficiencies and their effect upon the health of our people, and especially upon the war workers of this state, and

WHEREAS, The committee has investigated the need for factory canteens in war plants, vitamin feeding of war workers, organization of the state's nutritional services, fortification of foods, the penny-milk and school lunch program, diets in prisons and black markets in food, and

WHEREAS, There is an urgent need not only for continuation of these investigations but also for dietary surveys to determine the impact of price changes and rationing upon the various economic levels of our population and for additional studies of new problems directly affecting the nutritional status of our people, such as post-war, nutritional problems; now, therefore, be it

RESOLVED (if the Assembly concur), That the joint legislative committee to study nutritional

problems, created by resolution adopted April sixteen, nineteen hundred forty-two, and continued by resolution adopted by the nineteen hundred forty-three legislature, be and it is hereby further continued, to consist of four members of the senate to be appointed by the temporary president of the senate and four members of the assembly to be appointed by the speaker of the assembly with full power and authority to continue its studies and investigations of the proper role the state should play in relationship to nutrition, and be it further

RESOLVED (if the Assembly concur), That such inquiry shall include a detailed dietary survey and a study of the post-war nutritional problems which may affect our people; and be it further

RESOLVED (if the Assembly concur), That the study and investigation hereby authorized is not limited to specific matters herein mentioned or enumerated but the committee in the conduct of such investigation may inquire into every matter and thing considered to be relevant to the problems of nutrition, even though not specifically mentioned herein to the same extent as though specific power and authority therefor were expressly granted herein; and be it further

RESOLVED (if the Assembly concur), That such committee shall

organize by the selection from its number of a chairman, a vice-chairman and a secretary and shall employ and may at pleasure remove a research director and other employees and assistants as may be necessary, and fix their compensation within the amounts made available therefor herein. Any vacancy in the membership of the committee shall be filled by the officer authorized to make the original appointment. The members of the committee shall serve without compensation for their services but shall be entitled to their actual expenses incurred in the performance of their duties hereunder. Such committee may sit at any place within the state as it may determine to conduct its labors, and it may hold either public or private hearings. Such committee or any member thereof shall have power to subpoena witnesses, administer oaths, take testimony and compel the production of books, papers, documents and other evidence and it shall have generally all the powers of a legislative committee as provided by the legislative law. Such committee may request and shall receive from all public officers and departments and agencies of the state, and its political subdivi-

sions, such assistance and data as will enable it properly to consummate its investigations; and be it further

RESOLVED (if the Assembly concur), That the committee shall report to the legislature on or before March first, nineteen hundred and forty-five the results of its studies and investigations and shall submit with its report such legislative proposals as it deems necessary to make its recommendations effective; and be it further

RESOLVED (if the Assembly concur), That the sum of fifteen thousand dollars (\$15,000), or so much thereof as may be necessary, is hereby appropriated from the legislative contingent fund and made immediately available to pay the expenses of the committee, including personal service, in carrying out the provisions of this resolution. Such moneys shall be payable after audit by and upon the warrant of the comptroller on vouchers certified or approved by the chairman of the committee in the manner provided by law.

To Finance Committee. March 17 report. Adopted. March 18 in Assembly. Adopted. Chapter 315, Laws of 1944.

APPENDIX B

DEPARTMENT OF JUSTICE

Bureau of Prisons

WASHINGTON

Memorandum to all Wardens and Culinary Officers:

Subject: The rating of menus.

In order to create an interest in the making of menus, we have decided to score all monthly menus on the basis of one hundred percent.

The method of scoring is given below. It is planned that the first scoring will take place in August. Save the memorandum in order to be able to check your scores.

Scoring the Menus

BREAKFAST. 25 points.

- | | |
|--|----------|
| 1. At least four servings of fresh fruit per month..... | 5 points |
| 2. 50-50 ratio of cooked to dry cereal..... | 5 points |
| 3. Milk ration up to standard..... | 5 points |
| 4. Interesting special breads each day..... | 5 points |
| 5. Interesting main dish (hot cakes, French toast, meat, eggs or potatoes) not less than four times..... | 5 points |

DINNER. 40 points.

- | | |
|--|----------|
| 1. Variety of soups not less than six times..... | 5 points |
| 2. Interesting variety of meat dishes..... | 5 points |
| 3. Gravy, oleo or spread each dinner..... | 5 points |
| 4. Not less than eight varieties of potatoes..... | 5 points |
| 5. Interesting preparation of fresh cook vegetables (canned in Winter) | 5 points |
| 6. Interesting salads not less than ten times..... | 5 points |
| 7. Desserts not less than six times of which at least three are frozen.. | 5 points |
| 8. Hot bread or whole grain breads not less than 8 times..... | 5 points |

SUPPER. 35 points.

- | | |
|---|-----------|
| 1. Interesting variety of soups..... | 5 points |
| 2. Interesting variety of main supper dishes | |
| a. Spaghetti, etc., not more than 3 times as a main dish. | |
| b. Beans not more than 7 times as a main dish. | |
| c. Cold meats such as bologna not more than 4 times as a cold
super dish | 10 points |
| 3. Interesting salads not less than 10 times..... | 5 points |
| 4. Use of cold tomatoes not less than 6 times..... | 5 points |
| 5. Pie on the menu not less than 8 times..... | 5 points |
| 6. Variety of desserts..... | 5 points |

W. T. HAMMACK,
Assistant Director

APPENDIX C

DEPARTMENT OF JUSTICE

BUREAU OF PRISONS

MENU

INMATE
BREAKFAST

Institution, TEXARKANA, TEXAS.

Week Ending December 7, 1943

DATE	Fruits	Cereal	Milk, X = fresh	Oleo or gravy	Special bread	Bread, X = white	X = Sugar, * = syrup spread	Potatoes	Eggs and meats	Beverage, X = coffee
1	Stewed apples	Corn flakes	X	Oleo	Butterscotch rolls	X	X			X
2	Stewed prunes	Hominy grits	X	Oleo	Vanilla buns	X	X			X
3	One-half grapefruit	Bran flakes	X	Oleo	Hot cakes	X	X & *			X
4	Fresh apples	Rolled oats	X	Oleo	Butterfly buns	X	X			X
5	One-half grapefruit	Rice Krispies	X	Oleo	Doughnuts	X	X			X
6	Stewed prunes	Ralston	X	Oleo	Sugar buns	X	X			X
7	Oranges	Wheat flakes	X	Oleo	Cinnamon rolls	X	X			X

APPENDIX C (Continued)

DINNER

DATE	Soup	Crackers, etc.	Meat or fish	Bean or spaghetti dishes, etc. cheese	Gravy, oleo or spread	Sauce	Potatoes	Roots	Leafy, green, etc., vegetables	Salad or fresh fruit	Salad dressing	Bread	Beverage	Dessert	Dessert sauce
1			Swiss steak		Brown	Tomato	Mashed		Green beans	Vegetable		*	*		
2			Roast pork Sage dressing		Cream	Apple	Baked sweet	Green onions	Sauerkraut			Hot rolls	Hot tea		
3			Baked fish		Brown	Tomato	Baked		Escalloped tomatoes	Cole slaw		*	*	Lemon pie	
4	Vegetable	Crackers	Fried pork sausage	Raisin dressing	Brown	Apple	O'Brien		Sweetash			W. W. &	*		
5			Baked ham		Brown	Mustard	Mashed		Tender greens	Lettuce		*	Hot cocoa	Vanilla ice cream	
6			Roast beef	Buttered noodles	Pan		An gratin		Buttered peas and carrots	Picadilli		*	*		
7			Baked beans	Macaroni and cheese	Brown	Catsup		Sliced onions Sliced pickles	Buttered spinach			Corn & *	Lead punch	Orange cream pie	

APPENDIX C (Continued)

SUPPER

DATE	Soup	Crackers, etc.	Meat or fish	Bean or spaghetti dishes, etc., cheese	Gravy, oleo or spread	Sauce	Potatoes	Roots	Leafy, green, etc., vegetables	Salad or fresh fruit	Salad dressing	Bread	Beverage	Dessert	Dessert sauce
1	Vegetable	Crackers	Baked hash	Buttered noodles	Brown & *				Cold tomatoes			Hot rolls & *	*	Tapioca pudding	
2			Beef pot pie	Fried hominy	*				Boiled lima beans	Cabbage & carrot	Piccalilli	*	*	Chocolate pie	
3			Scrambled eggs	Broiled bacon	*		French baked	Creamed carrots				* & hot biscuits	*	Chocolate ice cream	
4		Crackers	Chili con carne	Steamed rice	*				Boiled kid- ney beans	Vegetable		*	*	Chocolate eclairs	
5	Tomato & rice	Crackers	Sliced bologna	Creamed cheese	*		Macaroni salad		Cold tomatoes			*	*	Fruit pudding	
6			Meat sauce	Plain spaghetti	*		Lyonnaise	Buttered beets		Tomato & lettuce		Hot rolls & *	*	Pineapple cream pie	
7	Tomato & spaghetti	Crackers	Peach frit. & syrup		*		Steamed		Green peas	Vegetable		*	*	Maple nut ice cream	

APPENDIX D

SUGGESTED INSPECTOR'S REPORT

STATE OF NEW YORK

State Institution—Food Inspection Report

Date..... Time of Inspection..... County.....

Name of Institution..... Address.....

Superintendent..... Steward.....

Number of Kitchens..... Specify name of kitchen below:

A. Kitchen	Yes	No	Yes	No	Yes	No	Yes	No
1. Are walls and ceilings clean and cleanable?
2. Is there adequate light and ventilation?
3. Are floors clean and in satisfactory repair?
4. Are all openings to the outer air screened during the fly season?
5. Is the kitchen free from flies?
6. Is the kitchen free from all insects and rodents?
7. Are foodstuffs properly stored?
8. Is adequate refrigeration provided?
9. Are refrigerators clean and in repair?
10. Are thermometers in satisfactory operating condition?
11. Is the quality of food on hand good?
12. Are equipment and utensils properly cleaned?
13. Are equipment and utensils properly constructed?
14. Are garbage containers satisfactory?
15. Is there proper disposal and handling of garbage?
16. Are dining rooms and equipment clean?
17. Are toilet and washrooms clean and in repair?
18. Do institution employees wear clean outer clothing?
19. Is the appearance of the institutional employees satisfactory?
20. Do the institutional employees use properly sanitary methods?
21. Do inmate employees wear clean outer clothing?
22. Is the appearance of the inmate employees satisfactory?
23. Do inmate employees use properly sanitary methods?
24. Is the general condition of the kitchen satisfactory?
B. Bakery	Yes	No						
25. Are walls and ceilings clean and cleanable?						
26. Is there adequate light and ventilation?						
27. Are floors clean and in satisfactory repairs?						
28. Are all openings to the outer air screened during the fly season?						
29. Is the bakery free from flies?						
30. Is the bakery free from all insects and rodents?						
31. Are the following utensils clean and in satisfactory repair? (Underline dirty or unsatisfactory equipment and or utensils) Flour-sifter, bread-mixer, cake-mixer, troughs, oven, proofbox, tables, bins, tool drawer, tables, divider, brushes, scrapers, racks, rolling pins, scales, containers, pans, jelly filler, jelly bags, sieves, hand-bowls, slicing-machine, doughnut equipment, other equipment.						
32. Is flour storage satisfactory?						
33. Are other ingredients stored satisfactory?						
34. Are there adequate toilet and handwashing facilities?						
35. Are toilet and washrooms clean and in repair?						
36. Is adequate refrigeration provided?						
37. Are refrigerators clean and in repair?						
38. Are thermometers in satisfactory operating condition?						
39. Do institution employees wear clean outer clothing?						
40. Is the appearance of the institutional employees satisfactory?						
41. Do the institutional employees use properly sanitary methods?						
42. Do inmate employees wear clean outer clothing?						
43. Is the appearance of the inmate employees satisfactory?						
44. Do inmate employees use properly sanitary methods?						
45. Is the general condition of the bakery satisfactory?						

C. Storehouse

46. Is the storehouse properly constructed?
47. Are the walls and ceilings of all rooms clean and cleanable?
48. Are the floors of all rooms clean and in satisfactory repairs?
49. Are all food-stuffs properly stored?
50. Is adequate refrigeration provided?
51. Are all perishable foods and cereals subject to insect infestation held under refrigeration?
52. Are the temperatures correct for the goods stored?
53. Are the thermometers in satisfactory repair?
54. Is the quality of the food stored apparently satisfactory?
55. Are there adequate toilet and handwashing facilities?
56. Are toilet and washroom clean and in repair?
57. Do institution employees wear clean outer clothing?
58. Is the appearance of the institutional employees satisfactory?
59. Do the institutional employees use properly sanitary methods?
60. Do inmate employees wear clean outer clothing?
61. Is the appearance of the inmate employees satisfactory?
62. Do inmate employees use properly sanitary methods?
63. Is the general condition of the storehouse satisfactory?

D. Butcher Shop

64. Are walls and ceilings clean and cleanable?
65. Is there adequate light and ventilation?
66. Are floors clean and in satisfactory repair?
67. Are all openings to the outer air screened during the fly season?
68. Is the butcher shop free from flies?
69. Is the butcher shop free from all insects and rodents?
70. Are the following utensils clean and in satisfactory repair? (Underline dirty or unsatisfactory equipment and/or utensils)
Blocks, slicer, grinder, knives, cleavers, saws, containers, other utensils.
71. Is adequate refrigeration provided?
72. Are refrigerators clean and in repair?
73. Are thermometers in satisfactory operating condition?
74. Are there adequate toilet and handwashing facilities?
75. Are toilet and washrooms clean and in repair?
76. Do institution employees wear clean outer clothing?
77. Is the appearance of the institutional employees satisfactory?
78. Do the institutional employees use properly sanitary methods?
79. Do inmate employees wear clean outer clothing?
80. Is the appearance of the inmate employees satisfactory?
81. Do inmate employees use properly sanitary methods?
82. Is the general condition of the butcher shop satisfactory?

E. Cannery

83. State foods canned.....
84. Are walls and ceilings clean and cleanable?
85. Are floors clean and in satisfactory repairs?
86. Is there adequate light and ventilation?
87. Is the cannery free from all insects and rodents?
88. Are equipment and utensils clean and in satisfactory repair?
89. Is the equipment of sanitary construction?
91. Is there adequate waste and sewage disposal?
92. Is there an approved water supply?
93. Is the quality of the raw materials used satisfactory?
94. Is the quality of the finished product satisfactory?
95. Is the general condition of the cannery satisfactory?

F. Abattoir

96. Number of animals slaughtered monthly.....Cattle.....
Calves.....Swine.....Fowl.....Other.....
97. Is the building of proper construction?
98. Are walls and ceilings clean and cleanable?
99. Are walls and ceilings of suitable material?
100. Is the killing floor clean?
101. Is the killing floor made of concrete?
102. Is it sloped to properly trapped drains?
103. Is the building weather-proof?
104. Are all openings to the outer air screened during the fly season?
105. Is the abattoir free from flies?
106. Is the abattoir free from all insects and rodents?
107. Is the water supply satisfactory?
108. Are the surroundings satisfactory?
109. Is offal cooked if fed to pigs?
110. Is slaughtering done under inspection of veterinary?
111. Are proper waste receptacles provided?
112. Is adequate refrigeration provided?
113. Are refrigerators clean and in repair?
114. Are thermometers in satisfactory operating condition?
115. Are all tools and utensils clean?
116. Are there satisfactory facilities for cleaning up?
117. When did slaughtering operations last occur?

118. Are there adequate toilet and handwashing facilities?
119. Are toilet and washrooms clean and in repair?
120. Do institution employees wear clean outer clothing?
121. Is the appearance of the institutional employees satisfactory?
122. Do the institutional employees use properly sanitary methods?
123. Do inmate employees wear clean outer clothing?
124. Is the appearance of the inmate employees satisfactory?
125. Do inmate employees use properly sanitary methods?
126. Is the general condition of the abattoir satisfactory?

* * * * *

Where questions are answered "No" explain all facts in detail in this space.
State any objections whether or not they are covered in the above report.

Make specific recommendations here.

.....
Inspector

APPENDIX E

From Report of the Temporary Economy Commission (Leg. Doc. 50, 1943)

TABLE

DEPARTMENT OF CORRECTION

AVERAGE DAILY AND ANNUAL COST OF FOOD PER INMATE (1942)

Source: From data submitted by Department of Correction.

GROUPS ACCORDING TO AVERAGE DAILY CENSUS	Institutions	AVERAGE COST OF FOOD PER INMATE	
		Day	Year
2,343.....	Sing Sing	\$.284	\$104
2,219.....	Attica .....	.256	93
2,125.....	Clinton .....	.241	88
1,609.....	Auburn .....	.233	85
1,570.....	Matteawan .....	.249	91
1,499.....	Elmira .....	.236	86
1,456.....	Great Meadow .....	.249	91
1,211.....	Dannemora .....	.248	91
966.....	Napanoch .....	.248	91
714.....	Coxsackie .....	.238	87
656.....	Woodbourne .....	.259	95
442.....	Walkill .....	.245	89
440.....	Westfield .....	.362	132
316.....	Albion .....	.311	114

The above costs include only food purchased and the established value of farm produce used for meals. It does not include any of the costs incidental to the preparation of the meals such as personal service, gas, coal and electricity. Therefore, the locations and numbers of kitchens and dining rooms used within each institution for the preparation and serving of meals would not influence these costs.

That some institutions are far out of line in the cost of meals is obvious and suggests a lack of central office control in establishing and requiring strict adherence to a well-defined policy.

An intensive study should be conducted to formulate a satisfactory program with respect to food costs in relation to dietary needs and the central office should require strict compliance to such program by all institutions.

Among the factors which allegedly influence such costs is the number of meals served. The cost per-meal of the institutions with an average daily census of over 2,000 is higher than those with an average population of between 1,000 and 2,000 and, in some instances, the institutions with the average number of inmates less than 1,000 are among the lowest in cost.

Within the groups are striking variations such as between Attica and Clinton in the first group; Elmira and Great Meadow in the second group; and Wallkill and Westfield in the third group.

The difference in cost of \$5 per year between each inmate confined

in Attica and Clinton, also between those in Elmira and Great Meadow, may not seem to be remarkable, but this relatively moderate amount if related to the total inmate population amounts to more than \$87 thousand.



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